DARK TRAILS

GEORGE K. CHERRIE

LOS ANGELES MUSEUM
EXPOSITION PARK

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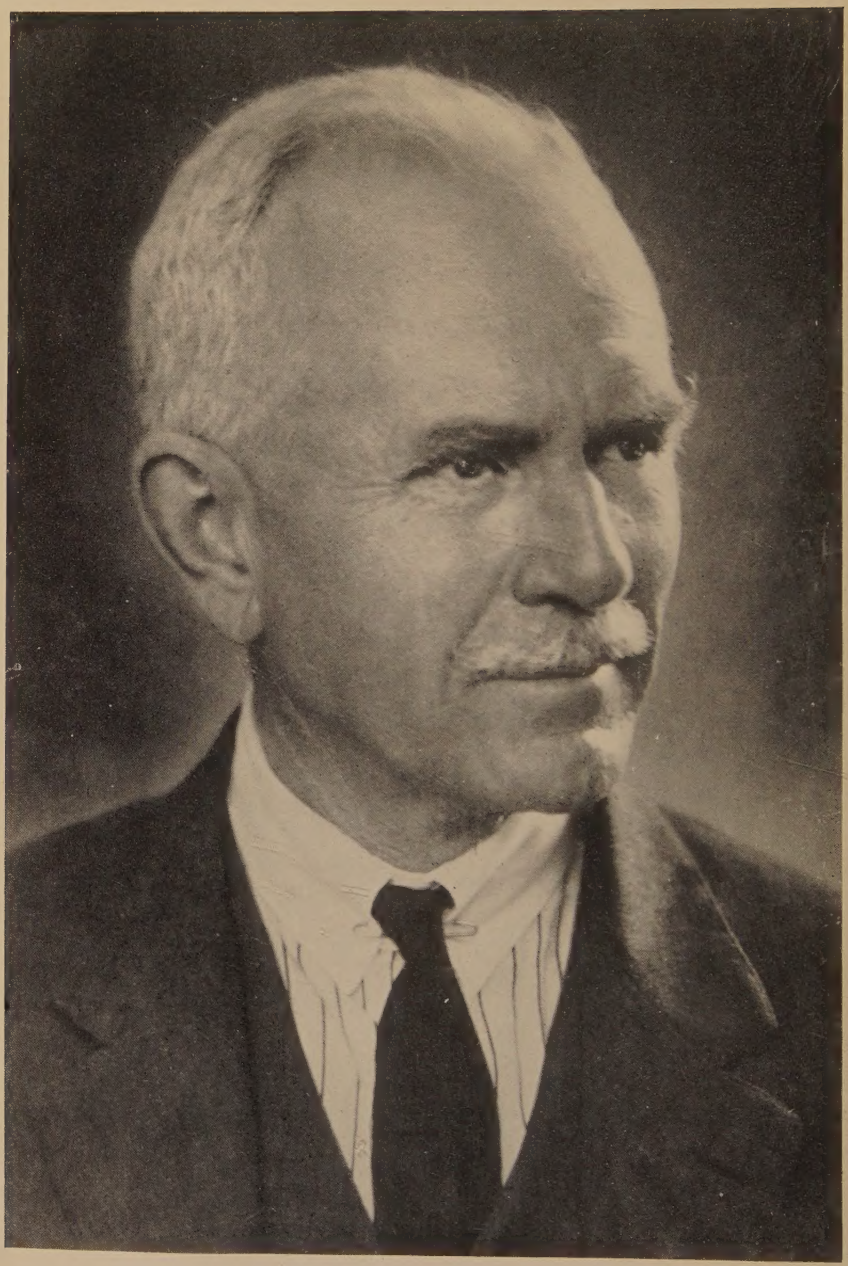

GEORGE K. CHERRIE.

DARK TRAILS

ADVENTURES OF A NATURALIST

By

GEORGE K. CHERRIE

With 58 Illustrations
and a Map

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LOS ANGELES MUSEUM
EXPOSITION PARK

DARK TRAILS

Copyright, 1930
by
George K. Cherrie

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Made in the United States of America

To

EVELYN FIELD

AS A TOKEN OF
SINCEREST FRIENDSHIP AND REGARD
AND BECAUSE
WITHOUT HER HELP AND UNFAILING
ENCOURAGEMENT THIS BOOK
WOULD NOT HAVE SEEN
THE LIGHT

FOREWORD

If you have met George Cherrie once you don't need to be told who he is the next time you run across him.

He is an individualist in looks and in acts. His very intonation belongs to him alone. I well recall the first glimpse I had of him. It was on a steaming day in Bahia. I had been engineering in Brazil for several years, mostly in the back blocks. Father wrote and asked if I were going to be able to come soon, and upon my replying in the negative, announced that he had been invited to make addresses by the Brazilian and Argentine Governments and proposed to accept and come down. After he should complete the lectures he would make an expedition in the interior of Brazil in the interests of the American Museum in New York.

Father asked me to accompany the expedition if I could arrange to leave my work, so it was with an unusually lively interest that I boarded the vessel. Those who have been much in the wilds well know

what importance the disposition and attributes of your companions are likely to assume, and the harder the trip the greater the importance that attaches to this.

No one needed to tell you that George Cherrie was a seasoned campaigner, able not only to take care of himself with quiet efficiency, but also to lend an understanding hand to a companion less thoroughly conversant with the ways of the wild. Cherrie was of more than middle stature, sturdily but not heavily built, with both humor and grim purpose showing in his sunburnt features.

"Many years of rainy seasons, and malaria's countless treasons" had left their indelible marks upon his frame without affecting either his rugged strength or his powers of resistance.

Father, as soon as we were alone, told me that he had at the outset reached the conclusion that no better companion could be found for an arduous voyage than Cherrie; and throughout the expedition nothing happened that did not strengthen this first forecast.

As originally planned the trip entailed little or no pioneer work, but in Rio de Janeiro we met Colonel Rondon who was at the head of the Telegraph Commission engaged in linking the far-flung towns of the

interior by stretching wires across the waste places of the hinterland. On his most recent expedition into the unknown Rondon had come upon a broad stream whose course and destination were so much a matter of speculation that he christened it the Rio da DuVida, the River of Doubt. He suggested that the plans for Father's expedition be changed to embrace the exploration of this river.

It was necessary to reduce the personnel to a minimum, so Father, George Cherrie and myself were the only American members of that portion of the expedition which descended the river. There were many dark days when sickness and lack of food, and the uncertainty of the outcome caused tension to run high. Through it all Cherrie stood forth like a tower of support.

There were also the light hearted moments when the clouds lifted. I well recall our celebration upon reaching the first outpost of civilization in the shape of a wooden shanty where a small stock of supplies was on hand for barter with the rubber gatherers. A ten-cent can of condensed milk cost nearly four dollars. Cherrie and I wished to find something with which to celebrate the occasion and the only thing available was a fly-blown bottle of Italian vermouth. Clubbing our resources, we got it, and sitting down

on the stoop we divided it between us with meticulous accuracy.

Although it had not been "cooled a long age in the deep delved earth," and straight cinzano under ordinary circumstances is not a particularly palatable drink, I never remember having enjoyed a bottle more than that which we shared on the River of Doubt.

The next expedition on which we went together was in a very different part of the world and under conditions which could not well have varied more. Instead of paddling through the intricate waterways of the steaming Amazon jungles we were on yak or afoot climbing the bleak windswept passes of the Himalayas, eighteen and nineteen thousand feet above the sea.

Here again there were days of hardship and uncertainty when bitter antipathies might be formed or lifelong friendships knit.

As I write this Foreword there flashes before me a kaleidoscopic panorama of distant lands. Lean times when you tightened your belt instead of lunching; other days when you squatted in the rain around a smoky fire dividing a hastily cooked monkey whose skin you could not save because it was required as food for the hunting dog. There were freezing

days trudging over the Depsang plains, eighteen thousand feet in the air, when your bully beef froze stiff and the icy blasts that almost tore it from your hands seasoned it plentifully with the desert sand. Then there were Chinese banquets where one indescribable course followed another for hours on end, and Cherrie toasted the Amban in fiery rice spirits. There were long hours on the trail, alternately talking of the task in hand, or what was happening back home, or striding along in companionable silence. All these scenes and many more passed in rapid review.

To but few in this world is it given to live as largely as George Cherrie has done; and but a fraction of these few have the ability to tell of their lives. The author of this book belongs to that handful, and his readers will be added to the already long list of his debtors.

KERMIT ROOSEVELT.

CONTENTS

PART ONE

PAGE

MY LIFE 1

Date of birth—Descent—Early education—Struggle through College—Ward's Natural Science Establishment and Natural History Museum Connections—Gambling Experience—Wanderings—Philosophy of Life.

PART TWO

THE UNSEEN WORLD—DEATH AND AFTER DEATH 9

Speculations on death and the hereafter—First experience with radio-ghosts—Strange experience of Dr. S. Weir Mitchell—Voices of the night—A vivid dream—Contact with the supernatural—A voice that I knew—A funeral at night—Fear of the spirit of death—Naive superstitions—The dead man laughed—Guajibo Indian beliefs—Purifying belongings of the dead—Death as natural phenomenon—Piaroa Indian burial customs—The night-hawk's call—The graveyard wall—The dance of the demon—Crude prestidigitation—*Mai da peste*—The "volador" snake—Madam Arrett—One touch and your hand withers—The dove's pilot—Piaroa haircutting rite.

PART THREE

THE DARK ANGEL'S BREATH 67

Narrow escapes—A message of warning—Cannibal fish—Crocodile and piraña—A gruesome tale—Almost on a crocodile's back—Rattlesnakes—Night visitors to my camp—Natives not immune to snake bite—The deadly fer-de-lance—An Andean trail and a near tragedy—Dangers from floods—Almost the San Antonio got us—Nesting of the Hoatzin—Our canoe was gradually sinking—A sun helmet serves for a bailer—Teritorio Amazonas—Fired at point-blank—A fight for life.

PART FOUR

THE CHASE 127

Museum collecting—An insect avalanche—Centipede's battle

CONTENTS

PAGE

with ants—Bird banding—Encounter with a giant stork—Their nesting habits—They win a battle—A vaquero's camp—The rhea, or South American ostrich—Habits and nesting—Young parrots—Their appetites—Spider monkey—Danger from snakes—An assault without provocation—Tamandua or lesser anteater—The giant anteater—Story of an ocelot—The tyra or giant weasel—Peccaries take to the water—A strange case of rigor mortis—Mantled howler monkeys—A jaguar hunt in Matto Grosso—Roasting turtles alive—Almost vanquished by fireants—A natural game refuge—Stopping a river boat.

PART FIVE

MY FELLOW MEN 201

Classed as an undesirable—Constantinople and the Near East Relief—An unexpected visitor—An impetuous lover—Bread cast upon the waters—Nursed by an Indian woman—Fate and a new mate—The postmistress warns us—Early days in Central America—Learning Spanish—Shelter grudgingly given—Military camp Castro Revolution, Venezuela—Cuzco, Peru—Sequel to the feast of Corpus Christi—A story of heart failure—The paraguayan Chaco—Native cheese making.

PART SIX

DOWN THE RIVER OF DOUBT 245

July, 1913—Preliminary résumé—October 8, 1913, members are off—Shipboard experiences—Roosevelt makes a friend—Kermit joins party—An unknown river—A stevedore's comment—Paraguayan women—The Chaco country—Insect pests—Bird life—On the Paraguay to Corumba—Fazenda Urucum—Its animal life—Marmoset monkeys—The two Colonels meet—A farewell breakfast—Christmas Eve, 1913—Fazenda Sao Joao—Our flotilla—Kermit's canoe leads into unknown wilderness—A coral snake incident—The Rapids of Navaite—Leaf-cutting ants and termites—Two canoes are lost—A day of tragedy—Unseen foes—Rio Kermit—We build two canoes—Colonel Roosevelt does the washing—A centipede enters camp—A brutal murder—A shallow grave—Colonel Roosevelt very ill—Monkey stew for all—The end of the River of Doubt.

ILLUSTRATIONS

FACING PAGE

George K. Cherrie . . . . *Frontispiece*

How a Rubber Tree is Tapped on the Tapajos River 18

A Funeral Procession 19

The Whitewashed Walls of the Campo Santo . 44

"Be Careful, Senor, He May Bite You" . . 45

As I Worked My Audience Told Me Interesting Bits of Folk Lore 58

I Made My Camp in an Abandoned Shack . . 59

Camp of the Rio Esperito Santo 102

The Collins-Day Expedition in Bolivia . . 103

The Natives with Stolid Indifference Watched from the Doorways of Their Wattled Houses 120

Here the White Flag Exposed Before the Door in One of the Narrow Streets Means There is Native "Chicha" for Sale 121

Wood Ibis Surveyed Us with Suspicion . . 142

A Young Wood Ibis Stepping Out into the World 143

ILLUSTRATIONS

FACING PAGE

A Rhea with Feathers Raised, a Characteristic Attitude of Alarm 150

Native Method of Drying Jaguar Skins. Matto Grosso 151

Prudencio, My Borro Indian Guide, Whose Pack of Mongrel Hounds Treed the Jaguar . . 156

Nest and Eggs of Rhea 157

Tamandua, Ant-Eater on the Offensive . . 160

The Giant Ant-Eater Does Climb Trees . . 161

Hides Drying at Descalvados. They are Fleshed by the Black Vultures 176

Sun-Dried Meat as Prepared at Descalvados . 177

We Tented in an Island Preserve 188

Crossing a Deep Slough in the Pantanal Country 189

A White Pelican of the Pacific Coast . . . 196

Coati, or Brazilian Racoons 196

Boys Will Be Boys 197

Boat-Billed Herons 197

Suydam Cutting, Colonel Roosevelt and George K. Cherrie in Turkestan 206

George K. Cherrie 207

Driving the Pigs into the Rain We Swung Our Hammocks beneath the Rafters of the Pigsty 228

ILLUSTRATIONS

FACING PAGE

One of the Gates of Cuzco Built of Hewn Stone from Razed Inca Structures 229

Llama and Guide at Cuzco, Peru 236

A Quichua Indian, Descendant of the Inca's People 237

The Windswept Puno 240

San Cristobal Being Returned to His Home, the First Church Built in Cuzco 241

The Seat of the Inca Boys Above the Fortress of Sacsakuaman 248

Plowing is Done at Quito in the Same Fashion as a Hundred Years Ago 249

A Cowboy of the Paraguayan Chaco 254

Marga, a Native Cheese Maker of the Chaco . 255

The Indians Along the Paraguay River, Despite Cranky Canoes, Stand Up to Do Much of Their Paddling 266

The Ambulance in Action 267

A Primitive Cane Mill 272

The Nhambiquaras Visited Our Every Camp . 273

The Starting Point down the River of Doubt. Colonel Roosevelt in His Canoe 278

The Author and His Mule, Companions on Many a Trail 279

The Small Trees That were Felled were Cut into Short Lengths 288

ILLUSTRATIONS

FACING PAGE

The Author in His Canoe on the River of Doubt 289

A Suitable Tree was Found and Work on a 25-Foot Canoe Begun 294

A Long Rapids Studded with Boulders Lay before Us 295

Colonel Roosevelt at the Foot of a Group of Pacova Palms, River of Doubt 300

When the Colonel Grew So Weak that He Could No Longer Sit Up, We Rigged a Protection for Him Against Sun and Rain . . 301

Kermit Roosevelt When We were Starting Down the River of Doubt 304

Colonel Roosevelt and Colonel Rondon at Tapirapuan 305

Author and Parecis Woman at Rio Sacre, Brazil 308

A Nhambiquara Maiden, Central Matto Grosso . 309

Our Last Camp before Starting down the Unknown River 316

Colonel Roosevelt and Colonel Rondon Viewing the Falls of the Navaité 317

DARK TRAILS

PART ONE

LOS ANGELES MUSEUM
EXPOSITION PARK

MY LIFE

On the morning of August 22, 1865, there was an increment of one in the population of the little village of Knoxville, Iowa. I was the increment.

My blood is Scotch-Irish. My father was born in Ireland, my mother in Scotland. They both came to this country when very young. My father served throughout the Civil War in the Third Iowa Cavalry, entering as a private and coming out as a captain; his breast-bone was shattered by a blow from a musket-butt in hand-to-hand fighting at Shiloh.

Early I was taught to work and religion was ingrained in my youthful soul.

At twelve I went into the woolen mills where, standing fourteen hours a day for six days in the week during the long summer days, I fed ravenous machines whose appetites I could never appease. I began by washing wool and ended by carding and spinning. My first pay envelope at the end of the week contained three dollars.

At fifteen I entered the Iowa State College, at Ames, Iowa, but without sufficient funds to carry

me through the first year. By working whenever an opportunity offered I was able to carry on. When the first summer vacation came I labored as a painter on the main college building, the remuneration from which together with odd jobs tided me over for the remainder of the year. During the second and third years, when my mechanical knowledge was sufficient, I ran the steam pump at night that supplied the college buildings with water. I tried to do my studying between spells while stoking but occasionally I would drop off to sleep and only awaken when the steam had gone down and the pump had stopped.

I took a course in mechanical engineering and specialized in mathematics, but spent much time in the little Natural History museum of the college.

Leaving college I spent a year at Ward's Natural Science Establishment, Rochester, New York, where I met the late Carl Akeley and other men like W. T. Hornaday and Frederic A. Lucas—leaders in museum development and Natural History exploration work.

For two years I worked as an engineer and while in charge of installation at an electric light plant at Cedar Rapids, Iowa, I saw inaugurated on the Cedar Rapids and Northern Railroad the first electrically lighted railway train in the United States.

But I was not destined to lead the fruitful, though unromantic, life of an industrious private citizen of my good country. For by 1888 I had begun to wander. I drifted down to Florida, thence to the West Indies. Since then I have gone on forty expeditions to the jungles of South and Central America and the wilds of little-known Turkestan, but have not always confined my activities to conventional Natural History explorations.

In my later years I have acquired a little base in the green hills of Vermont. There, in peace and with just the degree of solitude the wanderer needs, I now pass much of my time with my dog, my pipe, my books—and my memories.

Had I my life to live over I should not change one iota of it. I might "edit out" an incident or two. For what life is flawless? I have often known the ecstasy of living; and I have more than once known black despair. Mulling over my journals for material I have just come across the following entry:

"I wonder if it would have been as well had I not made a fight for life on that 21st day of September, 19—. Had I just sat down and waited, my life stream would soon have ebbed away."

But I didn't. It was more satisfactory to fight.

Once a man came to me and said: "Cherrie, lend

me your revolver." His face was white and drawn, but the fire of decision burned in his eyes.

"What are you going to do with it?" I asked him.

"Shoot myself."

I thought: is he desperate? Hysterical? Ill? Temporarily demented? I talked with him for a few moments; not going into details, but probing the soundness of his state of mind. Then I took the gun from its holster and handed it over. He killed himself that day.

For years I took life as it came. In Caracas, September 1891, three other men and I set out for a night's pleasure. One was a doctor, another a photographer, a third a drifter who loved gambling. I was a naturalist.

We ended up in a gambling den on the outskirts of the town. There were women, liquor and music of a sort. We started a game of no-limit poker, the proprietor sitting in. Near dawn I had $7000 worth of chips stacked up in front of me. When the hot tropical sun splashed over the horizon I had all the bank's cash and owned the house. I even won the stock of liquor!

I decided to run the place, taking my three companions in as full partners. The drifter who was a born gambler, we made manager. The photographer

became bartender; and the doctor managed the cards and acted as head croupier. I ran the roulette wheel. However, in a few weeks the novelty wore off. We sold for a neat profit and I retired permanently from a game that few men have ever left, once they have tasted its peculiar joys.

After the World's Fair in 1892 I became Assistant Curator in charge of the Department of Birds at the Field Museum, Chicago.

Wanderlust again seized me. From 1897 to 1899 I did natural history collecting for Lord Rothschild's Tring Museum and the British Museum. The Brooklyn Museum then put me on its staff. From there I joined the staff of the American Museum.

In 1913 Ex-President Theodore Roosevelt persuaded me to join him on his difficult expedition down the River of Doubt in western Brazil. Many expeditions intervened and in 1925–26 I went to Central Asia with the sons of the Ex-President, Kermit and Theodore, Jr. Lately I have done some additional work for the Field Museum.

The story of it all would fill a library—or would not fill a page, depending on how it were told. I must compromise with random incidents; sketch in the panorama sufficient to give a suitable picture. To me my conclusions, while less dramatic, are in-

finitely more important than the facts on which they are based.

For instance, to me death is still a mystery; mankind, frail but worthy; money an inconsequential convenience; friends a profound rarity; work a superior tonic and sedative; leisure, well used, pure gold.

Soon, with aviation, the globe will all be nicely catalogued and known. The thread of the traveller's romance will be broken forever—until man essays the planetary spaces. For this reason, and because life is but a brief and often arduous journey, I am glad that I am over the hill.

PART TWO

THE UNSEEN WORLD

DEATH AND AFTER DEATH

THERE is a great unseen world about us, peopled with ghostly figures and energized by invisible forces. Whether these figures are the ethereal survivals of the dead or a race unknown, or whether the invisible forces can be harnessed as positively as we have harnessed steam, is not for me to say.

I am only a chronicler of things I have seen and done; a veteran adventurer in life whose philosophy has changed with the passing of the years and become more tolerant of other men's beliefs and less sure of my own beliefs regarding the unseen world. Though not many people will admit being superstitious or holding concrete conceptions regarding the spiritual world, yet I believe there are few who have not personally had some contact with supernatural forces.

The knowledge and development of the radio has not lessened, but rather increased the sense and presence of these imperfectly known forces. The impression left by my first contact with the radio,

then in its early stages of development, has always remained vivid in my mind.

It occurred while returning from one of my South American journeys. We were in the middle of the Caribbean Sea. I was sitting in the smoking room of the steamer when the radio operator passed through. He stopped by my chair and said to me: "Mr. Cherrie, we are having some good music tonight, you had better come up and listen in." I went with him, and had just adjusted the head phones to my ears when I heard the announcer in New York speaking and a moment later came the music! Out of the stillness of the night came voice and music propelled by unseen forces. A weird experience for me!

For some years I have noted that when a group of people are thrown together for a few days or weeks, or sometimes for just a few hours, sooner or later the subject of ghosts will be broached. At such times there usually follows a period of silence. Then some one, with more or less diffidence, will relate an experience with what might be termed invisible or supernatural forces.

Doctor S. Weir Mitchell, the famous Philadelphia neurologist, held no brief for ghosts any more than I do. His life work with the inner mechan-

ism of the mind and nerves should have tended, and doubtless did, to make him cynical as regards supernatural phenomena. But there is a strange story told of the great man, a story that he is said to have related many times himself. He told it in a way that left his listeners with a feeling that there was a question in the narrator's mind as to its significance. The story was a curious incident of his medical career.

One evening after an exhausting day with patients he had got into his dressing gown and retired with a book to rest. After reading for a few minutes he dozed. He was awakened by the violent ringing of his front doorbell. When the maid did not answer he arose and went to the door himself. There he found a little girl, thinly clad, and plainly in distress. Without waiting to be accosted she said: "It's my mother, she's very sick, sir. Won't you come, please?"

The night was cold with snow whirling and drifting before a bitter wind. Dr. Mitchell was very tired. He expostulated with the child and suggested that there were other doctors at the local hospital. Besides, she was a stranger to him. But the little messenger would not be put off; and there was something in the way she spoke that caused the doctor to relent. Bidding her wait in the warm front hall,

he got into his clothing and great-coat and followed her.

He found the mother ill with a violent form of pneumonia. If my recollection is correct, she turned out to be an old servant of the doctor's. At any rate, Dr. Mitchell quickly telephoned for the proper medical help. Later, while sitting by the bedside, he complimented the sick woman on the intelligence and persistence of her little daughter.

"But my daughter died a month ago!" cried the woman weakly. "Her shoes and shawl are in that little cupboard."

Doctor Mitchell, amazed and perplexed, opened the cupboard door and saw the exact garments worn by the little girl who had brought him thither. The clothing was warm with the room's warmth and could not possibly have been out in the cold and snow of that wintry night.

"Not that I hold any brief for ghosts," he concluded in recounting the incident, "but there you are!"

The far spaces of the earth, the jungles and the deserts, all seem to be dwelling places of spirits. This has come home to me in the silent forests of the Amazon, the Orinoco, the Magdalena, and the Paraguay. The murmur of water and the myriad

voices of the night that issue from the gloom of forest and ravine seem always to contain something of the supernatural; they emphasize an otherwise uncanny stillness. Let there be the least break in the harmony of sound and instantly there succeeds a deathlike silence, while all living things wait in dread for the inevitable shriek that follows the night prowler's stealthy spring. When all is still again, slowly the night chorus is reintoned. Frequently at night, with my camp at the edge of the jungle, I have lain in my hammock listening, my ears yearning for some familiar sound—every sense alert, nerves taut.

Strange things have happened in the night. I am reminded of an incident in my own life in October, 1892. I had just finished some work at San José, Costa Rica. The world was going well with me. Body and mind were in perfect health and at peace. I had no reason to feel any sinister fear for the future; and yet it was at just that time that I received one of the most specific encounters with, or messages from, the unseen world.

On the tenth day of the month I had left San José for the Pacific coast. During the afternoon I journeyed to the little village of Alajuela, where I spent the night.

In the tiny inn I met with nothing that would encourage morbid thought. I had a good dinner, then chatted with friendly natives and acquaintances over a mug of ale and listened to the gossip of the village. It was late when I retired for the night, bent on an early start in the morning.

My bed was comfortable and I was soon sleeping soundly. I had probably been asleep for two or three hours when I was roused by a vivid dream. I was back at my boyhood home, standing in the shadow of the great elms that surrounded it. I was being greeted by my old dog with tumultuous joy. The front door was open. As I entered, the figure of a woman rose before me and I felt the grasp of her hand on mine. No word was spoken while I was led unresisting to my mother's bedroom, a sanctuary of peace and quiet, dimly lighted as of old when she had led me there to sooth and calm me after some childish tragedy. There my mother lay, her bed between the two windows, her face still and white, reflecting utter peace. Instantly I knew that she was dead. I felt no sense of overwhelming grief—rather a feeling of infinite peace. No one seemed to be present, even the shadowy form of the woman who had led me to the bedside seemed to fade away and I was alone.

I awakened. But despite the disturbing nature of the dream I remained awake for a short time only. Three times during that night the self-same dream was repeated and each time the scene was the same.

With the first gray streaks of dawn I arose and ordered my horse to be saddled; but before leaving I carefully noted in my diary the details of the past night's dream. Ten weeks later, on Christmas day, I received a letter from my sister informing me that on the night of October 10 my mother had died. It was the exact date and time when I had seen her in my dream; even the fact of her body lying between the windows of her bedroom was confirmed to the last item!

Was it only a dream? Was it coincidence? Who knows?

On still another occasion I had contact with the supernatural, or whatever you may wish to term it. I was near the mouth of the Tapajos, a large tributary of the Amazon, a few miles above Santarem. The stage setting for the experience was my camp, in a dense forest near the river bank. It was the end of a long hard expedition. Food supplies were low. Our evening meal had consisted of tea and cassava, hard as a stone, and fish that had been

broiled over the coals of our camp fire. I was sitting in my tent, protected by the drop net curtain from myriad mosquitoes and other insect hordes which had been attracted by the firelight. For days there had been a constant drizzle of rain that kept our clothing clammy and the air heavy with humidity. The romance of travel in a far country certainly didn't appeal to me that night. After the usual amount of grumbling and complaining, my camp helpers, canoe men and others, rolled themselves in their blankets and went to sleep. I was at work writing in my diary and making some scientific notes, intent on finishing the day's work. The only sounds about me were those of insect voices and the occasional startled cries of night birds or the shrill scream of some defenseless creature caught by a stealthy prowler of the night.

After writing an hour or more, an unusual rustling sound outside the tent attracted my attention. I called: "Who's there?" but received no answer.

I continued my writing, but I was again disturbed with the same low rustling sound. Then, abruptly, I heard my name called most insistently: "George! *George!*"

It was a voice that I knew. Without realization

HOW A RUBBER TREE IS TAPPED ON THE TAPAJOS RIVER, BRAZIL.

A FUNERAL PROCESSION.

of my surroundings and the impossibility of the presence of the owner of that voice being near, I sprang to my feet and went out. Startled, I stood at my tent door intently listening. But the only sounds about me were those of the tropic night.

The voice was that of one for whom I had great affection; but I knew that she was at the moment many hundreds of miles away; so the voice was only an hallucination, though I heard it plainly. Strange, too, I had not thought of her for months. Certainly I was not thinking of her that night. The writing I was doing and the uncomfortable day and evening I had just spent were far from suggesting romance. Again I distinctly heard the voice calling me, this time farther away, but unmistakably the same voice, which grew fainter and fainter; then died away. The silence of the night was broken only by the soft swish of the river against its muddy banks, the chorus of insect voices, and the rhythmic snoring of my tired men.

Months later, when in Caracas, I recounted the incident to my friend. I was not surprised to learn that she had been in great trouble that night; and, in thought at least, she had called my name.

Did I hear her voice? Yes. Was it telepathy? Who knows?

I have had many similar psychic or telepathic experiences, perhaps more than the average man, because I have lived a life outside the haunts of the ordinary human being.

The net effect on me is, as I have said, to make me more tolerant of the views of others, even those of the untutored savage. The white man commonly ridicules native superstitions. His premise is that the ignorant savage will always lose his absurd beliefs with the coming of civilization. Perhaps he does. But are the superstitions of the savage any more absurd to us than are to him the dogmas that a Christian civilization would impose?

My own viewpoint, while tolerant, does not stop there. I have long been interested and even entertained by the curious beliefs of the peoples I have known.

Late one afternoon in April, 1893, I arrived in a village far in the interior of San Domingo. In the dusk of the evening, as was the fashion, I sat talking outside the door of the rest house with a chance acquaintance. A hush had fallen with the twilight and only occasionally could we hear the calls of night birds or insects. The air was cool and fragrant. The village street was unusually quiet. But as I looked down towards the farther end, bordered

with its small adobe and wattled houses, like ghosts in the dim light, I was surprised to see flickering lights and hear low voices. Then there came the sound of a tinkling bell. It was a small bell that later proved to be in the hands of a barefoot boy. Following the boy were several natives with torches. As the procession moved toward us I remarked, half to myself: "Can it be a wedding?"

"No," said my companion, "it is a funeral. They have smallpox in the village and the Justice of the Peace requires that burial take place within three hours after death."

The torch-bearers carried between them a rough plank on which there lay a figure covered with a white shroud. We stood up. I felt a hand on my arm. "Stand back. You'll get splashed if you don't," my companion remarked.

At that moment the owner of the inn came to the door. By the light of the torches I saw she held a pail of water in her hands. The moment the procession had passed, she dashed the water into the unpaved street, where the dust was quickly turned to sticky mud.

"Why the water?" I asked.

"Simply this," said my companion. "By the coffin

walks Death, and it is to prevent his attempting to enter the house."

"But is Death afraid of water?" I questioned.

My companion shrugged his shoulders and, rising, pointed to the muddy spot left where the water had fallen.

"No," he said, "but Death walks when he travels on the earth, and he might fall if he attempted to cross the slippery mud."

Childish, do you say? It may be so.

Even more naïve are many of the superstitions or religious customs of the South and Central American native that permit his full self-indulgence in the name of one of his saints.

"Un medio" (five cents) he pleads of the stranger when certain feast days come. "A medio for rum. I would celebrate for my good saint!"

Often their belief in supernatural manifestations is not only inconceivably illogical but grotesque. I was resting for a day or two between traverses at Las Bonitas on the Orinoco early in January, 1898. One evening, when quietly chatting with friends, a young man came to me in a state of great excitement.

"My father is at the point of death! You must save him!"

This was not an unusual request in any of the small interior villages. The stranger from the outside, especially the white man, is supposed by the natives to know a great deal about medicine and to carry a cure for every malady. No doubt one of the reasons for this belief lies in the fact that men who travel in out-of-the-way places are usually men of superior physique and in rugged health. Besides they are often in possession of comforts and conveniences that, in the eyes of the ignorant native, are counted as part of a superior intelligence.

"I will come," I said. I knew that refusal to attend the dying man would only appear to be an act of distinct hostility on my part. Whereas, if the sick man did die despite my visit, it would mean simply that the Powers of Darkness were stronger in combination than the human power that would thwart them.

I found the patient on a low bed consisting of a cowhide that had been stretched when green over a wooden frame attached to the wall. This pallet was as hard as sheet metal. The house, which was just off the main street, was small but well kept. The inside surfaces of the wattled walls had been smoothed off and were adorned with lithographs of various saints. The hard earthen floor had been

swept clean. Judged by the crude hand-carved furniture and the lace curtains draped about the door and at the one window, the family was a relatively affluent one. The wife and two daughters were noisy and helpless in their grief; yet I could see that they were well above the average in intelligence. I mention this because of what followed.

The ill man could scarcely speak. He was in great pain, suffering from what was probably a tumorous growth of long duration. I made sure that the patient had water and that his pillow was made slightly more comfortable; this in evidence of the good faith of my visit. But I prescribed only a palliative from out of my limited store that I thought might help to abate the pain.

While I stood by the bedside I became conscious of a murmur of voices on the other side of a transparent curtain that hung between me and the far end of the room. Neighbors had gathered and were chanting prayers and beseeching their special saints not to stand in the way of my helping the sick man. The wife and daughters were making extravagant promises regarding the number of candles they would dedicate to their saints in case the patient recovered.

There came a hoarse whisper from the bed: "Water——"

I poured a cooling drink from an earthenware jug on a low table beside the bed. As though my act were a favorable omen, the murmuring behind the curtain became a little louder.

When I had lingered an appropriate time I expressed my sympathy and bade the family goodbye. The look of entreaty and trust in their wet eyes was difficult to bear. I said: "No matter what comes to pass, he will be happier tomorrow." I had to say something.

The following morning Death stepped in and the man's suffering was mercifully ended. He was buried that same afternoon with the usual semi-barbaric formalities, which the dwellers in isolated villages so enjoy—formalities that it is usual to speak or write of as barbaric, but which in reality savor little more of such than the elaborate ceremonies enacted in some churches in our so-called centers of civilization.

Remember, I did not know the man nor his family; my contact with them was purely one of chance. So that it was with no intentional disregard of their feelings that I spent some pleasant hours with a friend on the day of the funeral. And when, after

our evening meal, this friend related some amusing experiences I laughed, and laughed heartily. But my amusement was halted when the front door of the house burst open and one of the bereaved daughters rushed in. We sat up in startled astonishment at her hysterical outcry: "He is here! He is here!"

Both of us rose. I asked: "Who is here?"

"My father!"

My impulse was to remind the poor girl that her parent was dead and buried. "Why do you say a dead man is among us?" I asked.

"I heard him laugh! It is as you said: he is happier. He has come to you because you relieved his suffering."

"But it was I who laughed," I remarked.

"Of course—he would enjoy laughing with you!"

We heard voices outside; friends of the dead man. Others had heard the laughter. One of the older men beckoned me out of the lamp light.

"Stranger," he said, "do you not know that the dead laugh? We wait for it. It is a sign that they are happy. We are overjoyed to know that he has laughed here. It is good for you, too, for it signifies that he appreciates the aid you gave him."

All turned a deaf ear when I reiterated that only I had laughed, none other. Some began to show

offense when I insisted. So I had to accept the situation. Not until later did I learn how deep and widespread is the conviction that the dead laugh; that no happier sound can come to those who are left!

I found a more dangerous form of superstition existing among the Indians farther up the Orinoco. I say "dangerous," because one of the greatest problems of the explorer, naturalist or ordinary traveller, is sanitation. And any custom that spreads communicable disease is, of course, deadly hard to check if allied to religious superstition.

On one of my expeditions I was piloting my bungo, a large dugout canoe, down the Guinea River to the mouth of the Vichada, which is a good-sized tributary of the Orinoco. The bungo was hollowed from a single log and was thirty-six feet long with a five-foot beam. I was collecting Indian curiosities in addition to my regular zoological work. My funds were low and I was casting about for some way to augment them when I got back to civilization. It seemed a worthwhile speculation to invest in sundry Indian curios that I might sell at a profit to museums and other sources.

I was sitting aft dozing, my senses dulled by the sultry heat, my native paddlers resting as we drifted

down the stream. The cry of a water bird overhead aroused me. As my eyes opened I caught sight of a wisp of smoke rising from a low promontory opposite. With a swing of the steering paddle I headed the canoe toward the shore.

"I think we shall make a halt here," I told the crew. A native camp was usually interesting; often we could learn from them of conditions along our route.

We found on the beach a small group of Guajibo Indians, a poor-looking lot, mostly naked and dirty. Their canoes, which were drawn up on the shore, were very old. But since there were no children about, and only one woman, I concluded that they must be on some sort of important mission.

"Where are you from?" I inquired.

"Chota."

"Where do you go?"

The Indian named an unpronounceable place which I knew was far up the Vichada.

"What have you to sell?" I asked. Even the poor often had articles of museum value.

"We have nothing to sell."

I was surprised. It was a poor native indeed who had nothing to turn over to a rich white man

in exchange for a price sure to be fifty times its value.

"Absolutely nothing?"

"Absolutely nothing."

I became suspicious. Quickly I glanced about the camp to see if there were any signs of treachery. But the woman had busied herself with her cooking; and the men who were not asleep were conversing quietly and affably with my paddlers.

My curiosity was aroused. I risked offending the Indians. "Then why this journey? Is there a *fiesta?*" I asked.

"We take things with us," was the reply.

I became annoyed. "But you say you have nothing to sell."

The native shrugged. "We carry nothing that is not soiled."

I did not understand, although the words were plain enough. I ventured to say: "But sometimes I buy soiled things if they are what I want."

"No, you would not want these soiled things," persisted the native. "They are too soiled."

"Sucia!" I exploded, echoing the word meaning soiled or dirty, which the Indian kept repeating. "Never mind if they are soiled! Let me see what you have."

The Indian nodded to several bundles lying on the ground just outside one of the canoes. "It is only the clothing of a dead man."

Then suddenly I understood. It is a nearly universal belief among the Indians that the spirit of death lingers in the possessions of its victims, and all such articles are termed "soiled." Often they bring death to others if the victim had some highly contagious disease. But the native does not discriminate.

These wretched creatures were therefore, as they presently confessed, taking the belongings of their dead up to a distant Piaroa village, to have it *soplado:* that is, blown upon by the wise man of the Piaroa tribe and so cleansed of the evil spirit. The leader of the expedition was the son of the dead man. I gathered that he considered the hammock and other property of his father of sufficient value to be saved by an arduous two months' journey.

This situation reminds me of a description Stefansson once gave of the Eskimos of Point Barrow on the North Alaskan coast. He related that the missionaries finally impressed the natives with the vital need for cleanliness; that in the eyes of God they were not at their best when they neither washed nor changed their clothing. As they were

very poor they couldn't do any changing of clothes, so they did their best to save their souls by washing. The sad part of it was that there weren't enough towels and soap to go around; one cake of soap and one towel often had to do for all the members of a large family; sometimes for several families. In consequence sore eyes and other afflictions spread rapidly. Thus the results of ill-applied precepts of civilization are often on a par with the ignorant superstitions of the lowest aborigine.

It is a fact that the native looks on death as a natural phenomenon far more real and palpable than the white man. And it is quite conceivable to me that the day will come when science will swing us back to a belief akin to those held by our prehistoric ancestors.

Clearly as the natives fix the reality of death in their minds, so with equal clarity do they accept the transient nature of the body that houses the soul during the period of life. This is peculiarly illuminating of the strength of their philosophy.

On another occasion I learned the native's attitude towards death. I was at the Falls of Atures on the Orinoco River, a lovely spot that should not be missed by the traveller. While the falls are not high, there is a wildness about their setting and

curious savagery about the rapids, that somehow expresses the desolation of the country thereabouts. Desolation, of course, is not the correct word in the sense that it means lack of vegetation and animal life, for the profuse jungle and its myriad denizens is anything but lifeless. But the traveller soon feels the supremacy of a ruthless nature that still holds back civilization; a defiance to mankind that unconquered nature always has.

I lingered there for no particular reason. My collections were good and, for a time, complete. My responsibility was definite; the safe conveyance of my specimens back to the coast whence they would be shipped to New York. But as has so often happened in my life, I lingered with a feeling that something might occur which would be worth my while to see or experience. And something did occur: that most vital something known to living creatures—death.

"Look, Señor," my boatman whispered while I ate my breakfast outside my tent.

Following his gaze I saw a party of Indians emerging from the deep gloom and profound silence of the forest which rose like a green cliff just beyond us. I saw that they were Piaroas: a sorry looking lot.

"Sick, all sick," continued my man.

True; when the Indians came closer, we saw they were thin and haggard. Two were being carried. Others stumbled in their weakness. But there was no sound of complaint. If they suffered, they were at least stoic in their misery. Even when they camped nearby and some straggled in to visit us, they only stood about with what dignity they could muster and did not deign to beg for either food or help.

I directed that the chief of the party be brought to me. He came, a tall lean man of about forty. He wore a bit of skin about his waist and some sort of amulet or decoration on his wrist. Otherwise he was naked. He stood erect and silent after the first greeting in his own tongue. Although I could see that he swayed slightly, his shoulders were squared and his eyes did not waver from mine.

Perhaps it was a little cruel of me; but I, too, kept silent. I could not resist a sort of morbid curiosity to see if the fellow would come off his high horse, so to speak, and ask me to give him and his men a little of our provisions. Certainly it would not have been an untoward request to make, under the circumstances. I know I would not have hesitated to do so had I been so placed.

"You wish to speak to this man?" finally asked my interpreter, doubtless nervous at the strange silence between the native and me.

I bowed, but did not speak. Then abruptly, my question was fairly jerked out of me by a sigh that escaped the Indian. He checked his quick audible intake of breath almost before it began; but I heard it and I knew what it meant.

As kindly as I could I spoke. "You have had ill-luck. Perhaps I can help a little."

The Chief dropped his eyes for a moment. Then, looking again at me, he said: "We have hunted without success. My men are hungry. Some are ill. But we do not need help."

To the interpreter I said: "Tell him, we will send over what little food we can spare."

The Chief bowed slightly and uttered a low word of what I took to be thanks; then he turned and went back to his camp. I was able to let them have some cassava and tea, which I thought would be especially good for his ailing people.

Later I visited their camp. All seemed to have the quiet pride of their Chief, though few had his nervous and physical endurance. One poor chap smiled wanly at me as I passed. He seemed to have

fever and looked at me with listless eyes. He was young, not over twenty.

Two nights later there came a terrific tropical thunderstorm with the usual vivid lightning and an unbroken roar of thunder. Because such storms are not infrequent, we were ready for this one. Our gear was well secured and the palm leaf shelter we had built would protect us and our belongings somewhat from the torrents of rain, but when the bright lightning flashes illumined our surroundings I could see little rills of water running across the floor of our shelter.

I was surprised and somewhat alarmed to see that the Piaroas had provided no sort of shelter whatever. In the first place they had been travelling light on their hunt; and secondly, they were too weak, too sick to erect a lean-to out of boughs and leaves. They simply huddled together in a shivering group, over which the rain poured in relentless fury. From my hammock I could see their wet bodies glisten with each succeeding flash of lightning.

When the storm was at its height I suddenly saw the fevered lad whom I had noticed before detach himself from the group of Indians and move restlessly about the camp. I wished that I might do

something for him, but I had no spare bedding and knew there was no sort of treatment that I could give.

As the storm slackened I dropped off to sleep. At dawn I was awakened by a chorus of bird songs from every side. There was a delicious freshness in the clear morning air. And the world seemed to me a good place to live in as I caught the odor of coffee that my men were preparing.

The storm and the Piaroas were forgotten. The early morning hours were the best of the day for game of all sorts. My men and I should be on the trail. I must get things moving. With that thought in mind, I sat up, hastily thrusting my bare feet out of the hammock. They touched something cold, smooth and unyielding. A shiver of horror passed through me as I jerked my feet away. Looking over the side of my hammock I saw a Piaroa lying beneath me, his body stark and cold. The sick lad had passed on to better Hunting Grounds.

It was some hours before I could prevail upon his fellow Piaroas to remove the body. The uncomfortable thought occurred to me that they might have thought I had something to do with his death. Were this the case these half-wild people might resort to some revenge, despite our friendly relations.

I was relieved when four of them finally came with a long pole and a coil of *lianas*. They immediately set about lashing the body to the pole, tying it about the feet, the middle of the body and the neck. They did not speak nor look at me. If they felt grief or regret at the loss of their companion they showed it neither by expression nor gesture. Their mien was as if merely shifting a piece of inert property from one side of the camp to the other.

Two of the Indians hoisted the load to their shoulders and marched away. As the pair with their swaying load reached their camp the other Piaroas fell in behind. Across the sandy plain moved the funeral procession walking slowly, some of them chanting a sort of death song.

Not more than six hundred yards away the Indians stopped and laid the body on the ground. Working with only the crudest sort of tools they scooped out a shallow grave. Knives were used to loosen the soil, while much of the earth was pushed away by hand. They then cut the lashings from the body and laid it in the grave. The dirt was replaced loosely. There was no sort of ceremony; no so-called barbaric rites; no further singing and no gestures of propitiation to the Spirit of Death.

From my seat at the improvised table in the camp

where I was working I could see the spot where the grave was and occasionally my eyes would stray that way. By the middle of the afternoon dark bodies were wheeling in great circles high in the blue sky—their numbers constantly increasing. The sun's fierce rays had dried the earth on the top of the grave to dust. Little by little it was swept away in the brisk wind. When the body became exposed the vultures circled lower and lower, finally alighting. They seemed to survey the distance between them and our camp before they fell to work. By sundown only a few well-picked bones remained.

Before we left I had occasion to speak with the Chief again. Through the interpreter I asked him if such were the custom of burial in his tribe. He replied at once with another question:

"Why not? Should we save the soulless body?"

Strange that the followers of Zoroaster on the other side of the world should have evolved almost an identical philosophy.

* * *

It is not unnatural that native superstition should attribute powers of prophecy to animate as well as inanimate objects.

Once I sat near sundown in the garden of a cot-

tage up the Orinoco, waiting for my evening meal. Food was brought me by a comely girl of eighteen. Friendly natives dropped in as I ate, and by the time I turned to my pipe quite a little gathering sat about on the ground or on small benches, talking quietly or glancing furtively at the stranger within their midst.

When the sun had set the air became delightfully cool, making one wonder if it really could have been so scorching hot but a few hours before. The fragrance of the flowers in the garden, of the crushed grasses in the pathways and of the fruits bordering the enclosure was sweeter than I had ever known it. Nighthawks and whippoorwills wheeled about noiselessly as shadows, pursuing insects which swarmed through the evening air. It was not yet time for their nightly serenade, but suddenly a sharp note broke upon us from directly overhead: *"Whoo-youip! Whoo-youip!"* A nighthawk was calling.

Instantly conversation was silenced. I heard a whisper at my elbow. Several of the young girls tittered. One man, father of two of the girls, spoke aloud angrily.

Again came the nighthawk's cry, as though insistent that the little gathering hear it. This time

I knew by the furtive glances about that something of importance was attributed to the incident.

"Quien es? Quien es?" broke out an old woman with a deep hoarse voice of accusation. "Who is it? Who is it?"

At this the father of the two girls rose and strode to their side, glaring at first one and then the other.

Wanting a clue to the mystery, I leaned toward the old woman and asked her: "Can it be I?"

A chorus of shouts went up at my question. Also the tension of the moment seemed definitely to have been broken. Several of the young men and girls went into paroxysms of laughter.

"He asks could it be he?" chuckled the old woman. "Think of it!" And she, too, lost control of herself.

Finally the father of the two girls, who had not been so boisterous as the others, took me aside and said:

"Perhaps, Señor, you do not know the meaning of the nighthawk's cry."

I assured him I did not.

"It brings the message to the house beneath that one young woman present is pregnant!"

Of course the native is always in a receptive state of mind toward supernatural things. At the slight-

est provocation he concludes that the Spirit of Evil is about.

One night that same summer I reached Caicara, a tiny village nearly surrounded by jungle. As the water was deep close to the bank we had no difficulty in bringing our canoes right up to the landing place.

We had the usual reception committee of barking dogs, naked and half-naked children and indolent natives. Some of the women had brought chickens and fruit for sale. One old Indian pushed his way out with a handful of worthless arrows and an ancient bow, for which he demanded a top price. Doubtless he had done some business with wandering white adventurers before and considered them all an easy mark.

Among those who had given me a welcome I recognized a previous acquaintance of mine, a local trader, a half-caste European who had gone native and taken to himself a half-breed woman. The usual result of such a union followed—absolute happiness and a dozen sprawling children. He wore the ordinary costume, thin shirt open at the throat, coarse cotton trousers, and native sandals with rawhide soles held in place with thongs about the heel and between the big and middle toes.

"I hope you've come for a long visit," he exclaimed cordially.

"I wish I had," I laughed. "I've come for a while, anyway. And I hope you have a place for me."

He led the way up a smooth path to the village, followed by a motley procession.

The trader and I dined outside, waited on by his native wife who, despite an untidy one-piece costume, served us with a delicious dinner. Over our coffee I described my journey and spoke of my work collecting animals, birds, and other creatures. "Just at present I am especially interested in night-flying insects," I told him. "There are an abundance of these, but they are not always the ones I want."

"Not even with your light?" he asked. He had seen me using a lantern as a lure for insects on a previous occasion.

"Yes, I use my lantern, but somehow it doesn't always serve to attract the things I want."

For a few moments my friend seemed engrossed in deep thought. Then suddenly he sprang to his feet and with true Latin enthusiasm, exclaimed: "I have it!"

He led me by the arm to the corner of the garden from which we had a view of a rocky hillside. The

entrance to the path leading to the summit was about two hundred yards away across the plaza in front of the village church. In the haze of the twilight I could see near the summit of the hill what looked like a low white cloud.

"The graveyard," whispered the trader.

Then I remembered the local cemetery was on top of the hill and that it was surrounded by a white-washed adobe wall about ten feet high.

"Why not try your lantern on that?"

Instantly I saw what he meant. If I could illuminate a section of the white wall it would attract multitudes of insects and when they flew within the rays of my lamp I should have them silhouetted against the white wall beyond. In this way I could identify and capture just the specimens I wanted.

The trader reminded me at the same time that the villagers didn't make it a practice to visit the cemetery at night. So there was little likelihood that I would be disturbed.

On the following night I set out just after dark, using a flashlight to follow the winding trail that led up to the burying ground. I took with me my insect net, cyanide bottles, containers of various sorts, and a large three-burner lamp which I had fastened inside a box with a reflector behind it. It

was like an automobile lamp, the light being visible only from directly in front.

When I had reached the wall it was an easy task to prop the lantern up on an old stump and light its wicks as a beacon for the moths, beetles and scores of other insects which I hoped to capture.

I was not disappointed with results. Scarcely had I turned up the first wick when I heard a buzz and, turning my head, received a stinging blow in the face. It was a head-on collision with a mole-cricket! Of course I could have done my collecting by picking up such specimens as flew into the lamp if I had simply turned its rays out toward the tangled thicket about me. But this would have been a slow and unsatisfactory method and have left my choice largely to chance.

My attention was fixed on the adobe wall in front of me. Rays from my powerful lantern illuminated a white disk on the wall fully ten feet in diameter. Between the lantern and the disk, a distance of from fifteen to twenty feet, was a cone of light sharply defined against the blackness of the night. Within a few seconds this cone became populated with hundreds of flying, buzzing, circling, darting insects. Could I have magnified the size of the little animals and by some magic reduced their relative speed, I

THE WHITEWASHED WALLS OF THE CAMPO SANTO.

BE CAREFUL, SEÑOR, HE MAY BITE YOU.

should have gazed upon a graceful dance of bodies which varied both in size and color.

For some time I made no effort to use my net. The endless procession of whirling little bodies fascinated me. Only when a beautiful big moth circled lazily into the light and his wing-spread was shadowed large against the white wall behind him, did I make a wide sweep with my net and begin the real work of the evening.

The simplicity and fruitfulness of my device seemed to hypnotize me. Fatigue of the day's labors fell away. In my enthusiasm I felt as if I could go on swinging my net all night long. I could not get my specimens into the containers fast enough. In fact, my gyrations, for all their clumsiness and mediocre speed, were on the order of those described by the insects themselves.

Little by little I gave up the proper technique of insect netting. The graceful sweeps and twists with which I normally tried to imprison the insects in flight gave way to wild lunges and gnomelike jumps. Never in my life had I spent so riotous a time at collecting.

When fatigue did come it came with a rush. I had lost all account of time. I was not even sure what I had collected. In any event, I felt it was the

most successful evening's work with insects I had ever spent. Having extinguished my lantern, I made my way slowly back to my lodgings and dropped contentedly into my hammock.

The sun was just breaking through the mist over the river when I awakened. But instead of the sun's rays awakening me, it was the sound of many footsteps and excited voices outside my door. Sliding out of my hammock, I hurried over to a hole in the wall that gave a view of the street. What I saw was a surprise to me. The somnolent little village had suddenly come to life. Little groups of excited, gesticulating people held my astonished gaze. My first thought was another revolution. The only thing the setting lacked was a "general" on horseback.

My morning coffee came, also my host, accompanied by an old man whom I recognized as one of the important elders of the settlement. The look on my host's face was a curious mixture of emotions which I could not decipher. After bidding me good morning he turned to the old man and began a colloquy something like this:

"You say the whole village is in a panic?"

"Yes. The place has lost its peace for the first time since the great plague."

"And why should the people be so distressed?"

The old man excitedly related the terrible details. "It was late when we saw the first light," he said. "This light could only have been that of the Evil One. No man's torch was ever so bright. It illuminated only one spot and that on the wall about the sainted dead. In its gleam danced many demons. One would disappear and another quickly take its place. Only devils from hell ever danced so fearfully."

"How large would you say this demon was?" asked my host.

"Oh, of colossal size; with very long arms and legs."

"Did he have a tail?"

"Opinion is divided. Some say they saw it plainly. Others not."

After a good deal of cross-examination the trader permitted the old man to go. Then he turned to me with a laugh, saying: "So you're a devil—nay, a whole pack of devils!" He caught his breath presently. "With a *tail!*" he laughed.

But of a sudden he became serious, and warned me not to admit that I had had anything to do with the phenomenon. He explained that if I succeeded in convincing the villagers I had been up at the

cemetery the night before they would also be convinced that I was in league with Satan himself, and so not to be trusted.

As violence to a white man on some such pretext was a not unheard-of occurrence I was glad to take advantage of his advice and keep silent. I had learned by experience that if the South American native chooses to believe in supernatural phenomena like his more enlightened and civilized brethren, nothing can shake him, no matter how illogical and unfounded his belief may be.

However, this is not extraordinary when one realizes that most natives are brought up from childhood to believe and never to question certain things. Compared with our civilized selves, this credulity is merely a question of degree.

Like savage tribes of all other lands, those of South America have gone through their dark ages of medicine men; many tribes are still in this state. I recall one tribe on the upper Amazon that used a very simple and clear-cut ritual when any one was ill with a disease too obscure for ordinary treatment with herbs and poultices. The highest medicine man was called. Invariably he pronounced the cause of the disease to be a rare infection and set about allaying it. First he would roll uncommon leaves

with ordinary tobacco leaves, and, in order to give the performance a dramatic value, he chanted and waved his hands in fine sweeping gestures calculated to impress the unhappy family and miserable patient.

Suddenly he would become silent, and would glance severely around. Reassured by the evident awe of his audience, he would light the roll of leaves, inhale a great blast of smoke, and bend over the afflicted part of the patient's body. Presently he would exhale the smoke with a fierce sibilance that caused the frightened onlookers to gasp. Three times the medicine man would go through the same performance. Then, having laid his smoke screen, he would blow vigorously and wave his hands as though driving the infection away.

Of course it was a piece of crude prestidigitation. But the widespread success of such charlatanry testifies to the high value of mental suggestion; on the other hand, suggestion of evil works with equal efficacy.

The city of Para near the south bank of the Amazon's mouth was visited by a terrible epidemic of yellow fever in 1850; during the following four years it suffered from other epidemics, and in 1856 was swept by cholera. More than three-fourths of

the population died. On the heels of the cholera came smallpox. Strange to say, the whites suffered mostly from yellow fever. Probably it was a new disease to the blood of most of them; while the Indians and negroes, among whom it had no doubt raged for centuries, were more or less immune. However, smallpox, which the white race had long known in Europe, swept through those of color like a scythe. Scarcely an Indian or black escaped its terrible ravages.

The Brazilian government nobly did what it could to check the epidemics. Some idea of sanitation had been brought from so-called enlightened Europe and passed by official order to the city of Para. One of the steps taken to head off further infection was the recurrent firing of cannon in the streets to purify the air!

It is not strange, therefore, that the natives insisted that they could see the *"Mai da peste,"* or spirit of the plague, as it moved from house to house. This spirit was described "as a body of murky vapor accompanied by a strong stench that moved slowly in the dim light of evening from the houses of the dead to the houses of the doomed."

In 1920, while working on the West Coast near

Guayaquil, my head mule-driver supplied several curious bits of superstition that were new to me. Although an *arriero,* he was not one of those old bedraggled men whose senility often takes the shape of inane meanderings. He was a bright young chap who had had some schooling which had served to sharpen his wits, but had not freed him from popular superstitions and beliefs.

Pedro took an especial interest in me. He used to see that I drank plenty of water in the early morning (why, I don't know); that I stood in the shade when we halted at midday; that my pony took a safe side of the trail; that I did not associate with chance travellers whom we met on the way; and that I did not worry about food, or weather, or speed of travel—especially the last.

From these attentions and his incessant chatter I learned much which I jotted down: vitals beliefs from Pedro's point of view, and thoroughly entertaining from mine.

"Careful, Señor!" cried Pedro one morning.

I jumped aside and turned quickly, expecting to find that I had nearly stepped on some sort of poisonous snake. To my surprise I found only an innocent little chameleon on the rock beside which I had been standing.

"He may bite you," warned Pedro.

"Suppose he does, he's not poisonous," I retorted.

Pedro shook his head at my ignorance. "It is very dangerous, Señor, and if he bites you you must run quickly."

I laughed. In the first place I doubted if the small lizard would bite at all, although some of the large lizards, if caught, do bite viciously; in the second place, it certainly wouldn't be serious if he did bite.

"You must run at once for water, Señor."

"And wash out the wound?"

"No, no! Try to get there before the chameleon does. If he reaches the water first you will die."

"But why?"

Pedro shook his head stubbornly. "It is one of the laws of nature. If the chameleon that bites you gets to water first you will die. If you get there first the chameleon dies. It is always so!"

I asked Pedro what I should do if bitten by one of them in the middle of the desert, but he refused to smile. Like all other natives he no doubt felt that it was only inviting disaster to ridicule such beliefs.

It was Pedro, too, who told me of the famous Volador snake which is, according to the native

stories, the greatest jumper in the animal kingdom. From all their accounts even the kangaroo cannot vie with the Volador.

"There he goes!" cried Pedro on one occasion pointing to a small three-foot snake just disappearing into a bush. I suspected that it was by design that I was not allowed to look soon enough to identify the species.

Pedro went on to tell me that he had actually seen a Volador coil itself up like a spring and jump at least fifty times the length of one of our ponies, or a distance of about one hundred yards! The flaw in this common tale lies in the fact that no white traveller has ever been witness to one of these superb leaps.

Late in October I landed in Tucacas, Venezuela, one of the isolated coastal towns, on my way to Barquisimeto, on the Coro Peninsula. There was nothing to distinguish it from a score of similar villages. Its winding cobblestone streets, glaring plastered house walls, lazy inhabitants and general air of indolence that pervaded the market and wharves, might have belonged to almost any Venezuelan seaport that lies off the beaten path of trade. I put up at the town's one hotel, an old building that must have been an outstanding landmark in its early

days. It had a balcony high above the street, grated windows, tiled roof and a row of friendly palms to mark it for the passerby.

Entering the hall I saw a small proprietor's counter in one corner. Behind this counter, framed as it were, against a background of lurid prints, sat Madame Arrett, the keeper of the inn.

"You will see Madame Arrett," my guide had whispered to me as he deposited a load of my belongings just before I entered. His was not the first whisper I had heard about this notorious character.

The obese old woman was both feared and courted as she was well versed in native sorcery. She was believed to be in league with the Evil Spirit himself, a superstition which she fostered for her own ends. So far as I could judge, the net result of this reputation was to give a certain zest to her small trade, and to make her the confidante of shady characters as well as of the local officials. Apparently she kept the confidence of both or she would have had a knife stuck in her fat body long ere I had the doubtful honor of her acquaintance.

One evening as I sat in the doorway of the little hotel, idly watching the passersby, Madame Arrett presently came and stood near me. She was in a reminiscent mood and without any preliminaries

began talking of herself. She had had an eventful career and in reply to my question told me she was eighty-three years old. Then, after a pause, she added: "When a young woman I went to Germany and married a German. After his death I married a Frenchman. My second husband brought me back to Venezuela. When he died I lived with a Dutchman. I have been here more than fifty years."

She said it with an air of resignation and smiled.

"I have one son—by the Frenchman," she went on reminiscently. "He takes after his father—not too interested in hard work. But he's a nice boy, nevertheless."

At this moment the "boy" passed through the room. He was close to sixty, with lean countenance and shuffling gait. He bore an expression of complete indifference. The fag end of a cigarette hung from his lips.

For want of something better to say I asked: "Is your son married?"

"Yes, he married a nigger."

Somewhat abashed I pursued my questioning: "Have they any children?"

"No, they had one, but it died. But he has two other children." She paused. "A boy and a girl—but not by his wife."

We talked on of many things. The old woman had seen much of life and had evolved a philosophy of her own which she summarized in a few words: "We are as the animals of the jungle. We prey on other animals; and others in turn prey on us." Despite her depravity she was very human. Moreover, she professed an unassailable belief in the goodness of God.

On looking over my notes I find that it was the women rather than the men who more often proved interesting. Their livelier imagination and more animated manner of expressing themselves were in pleasing contrast to the rather hard-shelled exteriors which the men so often affected. The owners or managers of small hostelries in the villages often were women who frequently had a story to tell and were not averse to relating the adventures that life had dealt them.

I recalled Madame Arrett a few weeks later when I had moved farther up the coast and into the interior to Barquisimeto, because she had twice spoken about the direful effects of handling certain species of birds.

Native visitors to my new camp at Barquisimeto were a nuisance from the start. I don't know whether they were interested in ornithology, or

whether they didn't have anything better to do than to loaf around my camp. One of the things they loved, when my back was turned, was to paw over the bird skins I had prepared. They would take up a skin and volubly discuss its size, shape, color markings and other peculiarities. Perhaps the species was one which they had never seen at close range before. At any rate no group of white men looking at a new make of motor car ever exhibited the thrilled garrulousness that these native visitors did over my specimens.

I noticed, however, that from time to time my collections were left absolutely alone. The natives would come and peer at the skins, but would not raise a finger to touch them. This recalled Madame Arrett to my mind. Possibly there was some barrier of superstition which I could add to that part of my notebook reserved especially for native beliefs.

The next time I saw the natives standing aloof I asked one who seemed to be the ringleader and spokesman why they were afraid, adding with a sarcasm that I think was wasted on him: "I wish I knew."

"You do not know about the San José?" he asked in surprise. San José is the native name in that

locality for the Scarlet Tyrant, a pretty little flycatcher about the size of a bluebird but with the entire head and body brilliant scarlet, while the wings and tail are coal black.

The others crowded up, nodding solemn agreement, while he explained the danger of ever touching this bird. "One touch and your hand withers forthwith."

"But I touch them often."

"Ah, but it takes a longer time for the spell to work on a white man, and you have a cure; but just wait." Another man spoke up and described his wife's withered hand that had resulted from her having touched one of these birds.

After that I tried to leave a Scarlet Tyrant on my table every day.

Curiosity about birds is not confined to any section of South America. At Guainche in Ecuador, three years later, I was again pestered by curious natives who insisted on watching everything I did and asking me the most childlike questions. Indeed, I think only young children can compare in curiosity with the inquisitive outlanders of our neighboring continent.

"Why do you want the skins and not the meat?"

"How do you keep your knife sharp?"

AS I WORKED MY AUDIENCE TOLD ME INTERESTING BITS OF FOLK LORE.

I MADE MY CAMP IN AN ABANDONED SHACK.

"Are there no birds where you live?"
"Why don't you save the blood?"
"Where does this bird lay its eggs?"
"What gun did you kill it with?"
"Is it male or female?"
"What do you call it in your language?"
"How far do you think it can fly?"
"Why does it have only three toes?"
"What is that stuff you rub on the skin?"
"What will you do with it at home?"
"Do you sell them? How much? Why? When?"

These are but a few of the myriad questions that I had to listen to while working away on my daily catch. But despite their persistence, the natives are not usually rude. They are quick to detect a note of irritation in the white man's voice; and they will hasten to render assistance if they see that he lacks for anything.

They also seem to have an instinct of obligation when one renders them a service; an obligation to give something in return. Thus it is that many bits of information about the habits of animals have been brought me that I would not otherwise have learned. The problem is to discriminate between fact and fable.

One day a native picked up a large dove that I had lying on my table. He said: "That kind of dove builds its nest along the cliffs back of the village."

This was an interesting and important fact in the bird's life history which might have taken me days to discover, yet which now I hoped to confirm in a few hours. As he handled it a number of large dipterous parasites dodged in and out through the feathers, a few taking flight. My informant, seeing these, added an observation equally unexpected.

"Those *piojos* (parasites) are the dove's pilots. He could not fly without them."

As the other natives affirmed this statement with great emphasis I could not dispute it and hope to make any impression on their prejudiced minds.

* * *

Customs and traditions of semi-civilized natives which have to do with their personal habits are often distasteful to us. A whole book could be written on this subject. And the most interesting part of the story would doubtless be in tracing the vestiges of ancient habits that still survive in modified form amongst civilized and semi-civilized man.

During my travels along the middle and upper

Orinoco I had occasion to live at brief intervals among the Indians. I found them both cleanly and moral—according to their own ideas.

It is on this rock that so many splendid missionary crusaders have wrecked their frail craft. The white man's code is nothing more than the white man's code. Because we say that a thing is right does not mean that in the last analysis it shall be proved correct. Our beliefs, our superstitions (for we have many) and our philosophies are the outgrowth of ages of observation and experience.

But we must not forget that the savage also has his background of experience and thought. His philosophy may have a narrower concept, but he has the same inherent right to his own ideas as we have to ours. Any effort to impose the white man's code is nothing more than arrogant presumption. The white man's ideas and beliefs may or may not be right; I will not say they are wrong, but beyond a shadow of doubt the doctrines and beliefs of civilized peoples are as varied and fantastic to the savage as his rites and beliefs are to the white man. But, right or wrong, the white man's usual method of imposing his ideas has been one of the most scandalous and ruthless pieces of insolence in history—where might was assumed to be right

So much for the philosophical side of things. In the face of reality it is not always so easy for the white man to preserve his equanimity.

The Piaroa Indians of the Upper Orinoco with whom I came in contact in the autumn of 1898 had some curious customs or superstitions regarding their hair. Near my camp was that of some Piaroa hunters—all men. They had left their womenfolk safely in the village far back in the jungle and upstream, where they were not likely to be discovered and molested by enemies.

One afternoon there was considerable bustle about the Indian camp. It was during a stretch of bad weather and some of the hunters amused themselves by having their hair cut. They all wore their hair short and were as vain as women in their desire to have the line of the fringe the proper length and style to fit the personal beauty of each. The barbering, however, could scarcely be described as artistic workmanship. They had no scissors with which to do the work, and the tough, coarse hair required a special treatment in which the tools used were a billet of wood and a pair of shining blades.

The scene was an unexpectedly picturesque one. For a background there was the curtain of tangled vines and creepers forming a nearly impenetrable

jungle. Enormous ancient trees, many feet in girth, rose in dark parallel struts supporting the dense roof of foliage more than a hundred feet above. From the upper limbs of these giants hung thousands of clinging streamers of a paler green, air roots and vines and other light growths which lifted their fragile heads by virtue of their neighbor's strength. Near the ground the graceful and feathery Assai palms grew in little groups that shone distinctly against the deeper hues of the sturdy palms behind.

In the foreground were about two dozen Indians, their naked brown bodies graceful and shining, laughing and talking like so many animated actors in a bit of peaceful comedy. The hero—or victim, whichever you will—seated himself on the remains of an old log. Two other men with long knives arranged themselves on each side behind him. The two took turns holding their knives under a lock of hair to be cut off. A third man stood between the two knife holders gripping with both hands a light billet of green wood about one foot long. At a signal from one of the knife holders he struck a sharp light blow, neatly shearing the black locks that had rested on the keen blade of the knife. The process was repeated until a reasonably neat effect

had been produced; whereupon the next man took his seat upon the improvised chair and the three barbers again set to work.

To my surprise, the most important part of the ceremony came after the cutting had been finished. The clippings of each man were carefully collected by the owner, the ground where the shearing was to take place having been swept clean of leaves and other litter to facilitate the collecting of the clippings. One man shuffled around picking up stray hairs for a long time to make sure that no strands had escaped him. Having collected his hair, each man wandered off to the edge of the thicket, where a hole about a foot deep was dug and the hair deposited at the bottom. After refilling with earth, the holes were tightly tamped down and grass and leaves strewn about the miniature graves until they were completely hidden from the casual passerby.

I learned that the hair of a corpse was even more carefully hidden by similar burial.

My curiosity was further piqued when I was unable to elicit any sort of explanation for this strange custom. I heard eventually from one of the local traders that the hair is supposed to be a sort of ancillary of the brain; and that while it is useless and must be disposed of from time to time, its owner

must not risk its falling into the hands of an enemy. Should this happen the enemy might, by exerting even the slightest pull, crush the owner's brains against the inner side of his skull and so kill him. Headaches are reputed to be caused by an enemy stepping upon some strands of hair that have been carelessly left about after a native barbering.

PART THREE

THE DARK ANGEL'S BREATH

It is not unnatural that in my nearly forty years of wandering I should have had some narrow escapes from an untimely end. Yet adventures, in the journalistic sense of sensational incident, have been few and far between.

There were times when I missed death by a hair's breadth; yet the circumstances were so quiet that it was only by an effort of mind that I could realize that I had felt "The Dark Angel's Breath," as the saying goes.

The dramatic quality or setting of a narrow escape in real life has little to do with the intrinsic drama of the situation. At home our perspective of the narrow escape is often warped by the crude realism of the novelist and playwright. Perhaps their devices are necessary in order to create an atmosphere of suspense. But to the man who has really faced dangers in the field these artifices are fantastic.

Several times I have had men or women come to me and say: "Cherrie, so-and-so is 'laying' for you. He means to get you."

Such messages delivered on the outskirts of civilization, where might is right, are usually spoken curtly or casually, with no attempt to color the facts in the case. And messages of this sort do not always come from friends. Sometimes they come from the lips of an absolute stranger.

"Why?" I asked one man who said just that to me.

He shrugged. "You know better than I do."

The situation was put entirely up to me, both as to judging its importance and as to checkmating my enemy. Whether I chose to hide from or to seek him out, or whether his threat was genuine or purely emotional, was a matter for me to decide.

On one occasion in Central America, after just such a warning, I strolled into a bar room, where I had been told the man, who had publicly announced that he would shoot me on sight, was waiting. I knew the danger lay less in his hostility, which had probably passed with the heat of his anger, than in his fear of derision if he failed to carry out his threat. Naturally, I was not unprepared and was on the alert for the first sign of trouble. As I

entered the room a few people slipped quietly but hastily out. There were no heroics on either side. And after a few tense moments, in which we both waited for our cue, a mutual friend tactfully brought us together with some well-chosen words that, despite being spoken casually, satisfied the vanity and saved the "honor" that my antagonist thought had been affronted. I call the incident a narrow escape because the fellow could draw as quickly and shoot as straight as I.

Dangers do not always come from mankind. Strange to relate, I consider one of my closest shaves came from an accident while fishing.

Many, if not all, the streams and rivers of tropical South America are infested by a fish with a slight superficial resemblance to a bass. The average weight I judge to be about one pound, but sometimes attaining a weight of from eight to ten pounds. It is known under various names, such as man-eating or cannibal fish. The Brazilians call them *Piraña,* while in Venezuela they are known as *Caribe,* the latter name derived from that of the original cannibal inhabitants of some of the West Indian Islands and the northern Venezuelan and Guiana coast. It is not only a carnivore, but a cannibal; and the man-eating shark is not more

ferocious than this river assassin. The smell or taste of a drop of blood is sufficient to arouse them to frenzy. On many occasions I have shot large birds such as the muscovy duck that have fallen into a stream or pool infested with piraña. If the bird was bleeding it was sure to be attacked by a horde of these fish with a fury that would make the water boil. A few feathers floating away would be all there was left of my bird!

The piraña is of erratic temperament and unless attracted by the smell or taste of blood may not attack. Cattle often enter the water wading up to their bellies to feed on the rank marsh grasses and to drink in waters frequented by these fish; but let the animal have a scratch or small open wound on its underside and it is lucky if it reaches the shore again.

My adventure with piraña came, appropriately enough, when I was fishing for them at the edge of a small river where the current had cut a deep hole up to and under the bank where I stood. I had caught several and had cut up one of them for bait, which proved most alluring to its own cannibal tribe. The water was clear. To get a better view of the school that played about my line I climbed out along a limb that overhung the water. I do not

remember exactly, but either I slipped or a branch broke. I was precipitated into the water squarely amongst the deadly piraña.

As I fell I made a wild grab at the limb and, in so doing, I struck my arm against a small projection, tearing a long gash in the flesh. Even in the fraction of a second it took me to fall I realized that I was bleeding and that my blood would instantly incite an attack by the murderous fish. To be sure, the bank was only a few yards distant; but the lightning-like rapidity of the piraña left me little chance to escape unhurt.

My whole instinct was to strike out instantly for the shore. Even a poor swimmer would have made it in a dozen strokes. But I retained enough of my reason to know that my one chance of escape lay in keeping the fish at bay before they became crazed with the taste of blood. So not only did I strike out for the shore but I set up a violent motion of twisting and rolling and splashing with my arms and legs.

Even then I felt a blow and a sharp pain in my shoulder that told me one of the fish had struck. All I could do was to continue my furious splashing. Luckily I succeeded in reaching the shore, though badly bitten before I dragged myself out of

the water. The physical effort of my contortions had exhausted me. It was some time before I could get up strength enough to start back to camp. I still bear the scars of that encounter. And I know that had I been even slightly stunned by my fall I should never have lived to tell the tale.

I present the facts in some detail because they illustrate how easily an accident may befall even an experienced traveller. A moving picture of the episode would certainly not attract an audience. There I was, a half-dressed fisherman in tattered cotton trousers and shirt such as the natives wear and a floppy straw hat, awkwardly losing my hold and falling into a placid river amongst a school of small, innocent-looking fish.

Yet I consider that one of my narrowest escapes; and the death which I faced was the most horrible that I can imagine. The one saving grace about being torn to pieces by piraña is that they work with ghastly expedition and dispatch their victim completely in the space of a few minutes.

A good example of what the piraña can and will do happened to a friend of mine, the Curator of the Museum at Para, shortly before one of my visits to the Amazon. After I had gotten my outfit to the hotel I went to visit my friend. She saw me as I

approached the house, through a long line of palm trees, and came out to greet me. As we met I was just a little surprised when she extended her left hand. My eyes involuntarily sought her right hand, which was hanging by her side.

"Oh," she said, "you didn't know that I had had an accident?"

Then she told me the story. She was not new to the country nor was she unaware of the dangers that lurked beneath the placid surfaces of pool or stream. The day had been scorching hot so, as the sun went down, the river's gently rippling surface was most appealing. Taking her Indian boatmen as paddlers, she was enjoying the evening's freshness and the gentle swaying motion of her canoe. It was all so calm and peaceful that no thought of danger could intrude. In a moment of forgetfulness she put her hands over the sides of the canoe, letting her fingers trail through the water.

"Very foolishly," she admitted. "But, as you well know, it is easy and natural when one is at peace with all the world to become absent-minded. I let my fingers trail through the water for a few minutes and was enjoying its delightful coolness when, suddenly, I felt a sharp blow on my hand. I thought the man who was sitting behind me had

inadvertently struck me on a forward dip of his paddle.

" 'Mind your paddle!' I cried. At the same time, jerking my hand out of the water, I was horrified to see a good sized piraña clinging to it. But the piraña clung for only the fraction of a second—even a shorter time than the spasmodic fling of the hand that would have hurled it away. When the piraña dropped back into the river, my middle finger went with it, clipped off as cleanly as if done by steel pliers!"

A friend and I sat on the deck of a river boat one day taking pot shots at the alligators and crocodiles along the shore. We were slowly drifting downstream on the Paraguay River. My attention was called to an enormous crocodile, so big that I thought I should like to get him for my collection.

A light breeze had kicked up just enough waves to give the boat a slight tossing movement. As a result I missed my mark and struck the reptile in its side. My soft-nosed bullet tore a great hole without mortally wounding the animal. Startled by the blow, as well as the noise of my gun, the crocodile plunged into the river. Scarcely more than a minute could have passed when we suddenly saw the surface of the water churned as by a minia-

ture maelstrom, about fifteen feet from the sandbar on which the creature had been sunning itself.

My first thought was that the crocodile had encountered others of its kind; and that, like many other animals, they had attacked it because it was wounded. To my astonishment the wretched creature plunged back to the sandbar and struggled out of the water, a score of blood-thirsty pirañha clinging to the ragged edges of the wound as it emerged. The crocodile was less afraid of my gun than of the vicious fish!

In the flood sections of the middle Orinoco vast areas are inundated during the rainy season. Wooded islands as well as sand banks disappear in a vast sea of swirling muddy waters. Amid crashes of thunder and flashes of jagged lightning, ugly cloud masses pour their torrents of water upon the drenched land below. A million cataracts rush from the hills and valleys, feeding the swollen river until its wide expanse is held back only by the bulwarks of the mountains.

At the rainy season's close, when the cloud banks rise, and the sun once more returns to stay, the mighty river gradually recedes. Low mud banks, miles in extent, slowly emerge. Sluggish tributaries fall away to narrow creeks winding between

morasses. It is on the banks of these upland tributaries that countless thousands of Caiman crocodiles come out to warm their cold reptilian blood in the sunshine after the dark days of the flood. And woe to the man or beast who wanders among them without a sharp eye for the mud-brown backs of the dozing beasts. Indeed, after the crocodile has been lying for an hour or two in the blazing sun his scaly topside becomes a perfect imitation of the sun-baked surface of the mud flat.

In the late spring of 1907 I was stopping at a small village on the middle Orinoco, opposite the mouth of the Apure River, when there occurred a tragedy all too common, that, had I not already had sufficient first-hand knowledge of the cunning and ferocity of the river Caimans, would have served as a warning against them.

The river had fallen well below flood tide and the crocodiles were apparently not getting their normal diet of birds and fish. One flat-bellied giant that had no doubt learned what helpless creatures humans are, having caught the scent of human flesh in front of the native village located just above highwater mark, had for weeks cruised about in the neighborhood waiting for a victim. The native hunters had seen and tried to

get him. But their weapons and aim were ineffectual against the reptile's armor. His cunning and savage boldness became a byword.

One morning, a few days after my arrival, a native woman took her child to the edge of the shrunken river to bathe it. Knowing of the hunters' efforts to slay the crocodile, and having been brought up to fear the beasts herself, she glanced nervously about before squatting down by the river's edge.

Not even a ripple disturbed the glassy surface of the turgid stream. Save for the occasional call of a nesting bird in the mangrove thickets on the other side, a profound tropical stillness filled the sultry air.

The next instant a terrible thing happened. A long, dark, torpedo-like body shot forward. For a horrible moment the mother looked down four parallel rows of gleaming teeth. Then the crocodile's massive jaws closed with a sharp snap on the little brown body. Rearing backwards, it tore the baby from the mother's arms and disappeared below the river's surface.

The woman's piercing screams aroused the village. Men, women and children came rushing to the river's side. There was no need of explanation,

for the stricken woman's face told the story. Too often in the history of the little river towns exactly this sort of catastrophe had befallen some of its members.

When the tragedy occurred I was off hunting in another direction. But I was given full and pathetic details on my return that night; indeed, it was the one topic of conversation. On the following morning I began my day's hunt along the river near where the tragedy had occurred.

As there were hundreds of crocodiles in the neighborhood I was not at all surprised when, a few rods downstream, I spied the nose of a large Caiman pushed out on the sandy beach at the edge of the water. Only the tip of the nose and eyes were visible, the rest of the body being completely submerged. Despite the fact that I wasn't out after crocodiles, it was too tempting a target to pass by; besides it might prove to be a specimen worth while.

At a distance of about seventy-five yards I slipped a soft-nosed bullet into my gun, took careful aim and fired. To my surprise the creature did not move, neither did I see any sand fly up in front of nor just beyond my target. I was greatly puzzled. It was unusual for me to miss at this range and it was

even more unusual for a crocodile to be so indifferent to rifle fire.

Throwing another cartridge into my gun, I walked slowly forward, more and more surprised that the reptile let me approach. I was ready to fire the second shot at sign of the slightest movement. Finally I stood directly in front of the animal and still it made no move, but I was ready to spring away, fully conscious that the beast's size would not prevent its making an agile rush for me. Then I learned the surprising truth. My ball had gone exactly where I had aimed it. Entering the eye, it had ranged back through the brain, instantly killing the crocodile. The nose had not moved so much as a half inch in the soft sand.

When I was convinced that the creature was really dead, I stooped down and grasping the nose with both hands, attempted to drag the huge body out onto the beach. But it was too heavy. I could scarcely move it. Then I decided that that crocodile's skin and skeleton were worth saving.

I hastened back to the village and announced that I had killed a big Caiman.

The whole village was filled with jubilation, and when I asked for volunteers to help me drag the beast out onto dry land they responded in a

body. Men, women, and children, all trooped down to the river. A noose was slipped around the jaws and the carcass dragged out onto the beach. But the space there between the river's edge and the twenty-foot embankment was too cramped. So with alacrity the ugly brute was hoisted up the embankment and dragged to an open field where all might see.

The maledictions hurled at that carcass were full of vengeance. Its father and mother and all its progenitors were cursed. Men and boys would sit astride the body and belabor it with clubs. The women were most vindictive in their cursing. The mother, whose child had been torn from her arms, seized a knife and thrust it into the monster's eye. The result was astonishing! Apparently not a muscle had moved when the creature was dragged from the water and up over the embankment, but the knife had found a nerve center that caused reflex action. The huge body writhed and twisted and the tail lashed violently back and forth, scattering the crowd in a panic. But only for a moment. Knives were drawn and vulnerable spots sought between the plates of the creature's bony armor. At some one's suggestion the reptile was rolled onto its back and the belly hacked open. The stomach re-

vealed the mangled remains of the child! Little did I think that my chance shot would disclose so gruesome a sequel.

My own narrow escape from a crocodile had no such color of pathos and tragedy. At the time I was wandering along the banks of another sluggish stream bordered by extensive mud flats, looking for waterfowl. The whole area was sun-baked and low. Imbedded in the mud, but with their tops somewhat above the general level, were many large flat stones covered with a thick layer of the cracked sun-dried silt.

With my attention riveted on the birds along the water's edge I grew careless of the never-absent danger from crocodiles. By chance, I had not seen any that morning and my thoughts were of other things.

As I proceeded stepping from one stone to another I suddenly had an impulse to glance down. My foot was still poised in the air over the next stone. To my horror I saw that I was about to spring lightly onto the back of a big crocodile! Had I done so the creature would have instantly whirled about and had me in his jaws before I could possibly have escaped. As a sample of the quickness of these animals, I have seen a dog racing

along the shore, caught in full flight by a Caiman. It was certainly an act of Providence that I withdrew my foot just in time to save my life.

No dramatics; no noise nor excitement; indeed, no action. And yet it was one of those typical hair-raising narrow escapes that readers and editors always want, although they usually sound commonplace when described by the traveller.

In passing, it is a matter of interest that the crocodile, which had devoured the child, measured eighteen feet from nose to tip of tail. However, I was mistaken in believing it was of record size, despite what the natives said. Some months afterward on a rocky beach I found the skull of a crocodile that, judged by the proportionate size of the two skulls, must have belonged to an animal at least twenty-five feet long.

* * *

All travellers in tropical regions have had adventures with snakes. And many such adventures are truly narrow escapes from death in that the poisonous snake can attack so suddenly and without warning. Often the location is so far from any sort of medical help that the victim will die unless first-aid treatment is prompt and efficacious.

The snake is so offensive a creature to most people that many curious and erroneous beliefs have grown up about it. Much of the risk I have taken in snake country has been with rattlesnakes which are similar to those we have in the United States.

One of the early surprises that I had was that the rattler does not always rattle; and that harmless snakes can make almost the same sound when they are excited, by a rapid vibration of the tail amid dried leaves or grasses. I have often jumped when some perfectly harmless garter or black snake has given a good imitation of a rattle-snake's warning against trespass. Like cats, snakes sometimes seem to show emotion by lashing their tails.

If the rattler is surprised it does not have time to rattle; and, like any wild animal, its first instinct is to strike in self-defense. So one cannot always count on the traditional warning.

Furthermore, the rattler does not always coil as we are usually led to believe. When it strikes it draws back the head and forward part of the body, usually forming a horizontal curve roughly like a recumbent letter S. From this position, it can launch forward the lineal length of the S curve simply by extending its body muscles. The drawing back and striking is of lightning-like rapidity.

If menaced, the snake will hold its position ready to strike, shifting its body, as its enemy or prey moves, so that the head always points directly at the victim. The distance struck is usually not more than one-third the length of the body and rarely, if ever, more than one-half.

I am not among those who deny that the victim of a snake bite does the right thing to drink copiously of spirituous liquor. However, treatment of the wound itself is of primary importance. A tourniquet will keep the poison from spreading, which, as a large percentage of bites are either on the leg or arm, can easily be applied. Permanganate of potash in the wound is a recognized specific against the poison; but, of course the specially prepared serums from such laboratories as that at Butantan, near Sao Paolo, Brazil, are infinitely better than any other treatment.

In my work as a collector of natural history specimens the danger from venomous snakes, although such are rarely seen, was nevertheless a real danger, both by night and by day. I had some curious encounters, one of which occurred at a camp far up the Orinoco, near the Maipures Rapids, that I remember as one of the most delightful camp sites in which I ever lived. There I had arrived as the

rainy season was drawing to a close and had swung my hammock under a palm-thatched shelter about a hundred yards from the river. Daily sunshine soon dried out the humid earth; the muddy swirling waters of the river grew clear and the nights cool and pleasant. During the periods when the moon was full I spent many hours down by the river's edge. The soft pale light lent an air of ghostliness to the brooding forest that lay beyond the thatched dwellings of the natives, transforming them to fairy castles about which the faint sibilation of insects floated as the last strains of distant music.

* * *

As time went on the ground about my camp and especially that beneath my hammock became dry and dusty. Frequently I would find the footprints of nocturnal visitors that had been made in the dust while I slept. From day to day I made note of these intruders. There were those of tiger cats, wood rats and mice, foxes, rabbits, lizards, many of which I could identify; but there were some whose tracks I did not recognize. Practically all were of species that ordinarily shun the light of day.

In the work of preparing specimens it was a matter of course for us to dispose of the bodies from which we had removed skins by simply tossing them

outside the limits of the camp. Vultures and other scavengers usually cleaned up anything of this sort before sundown. The finished specimens were placed in trays and suspended by wires from the roof. They were never left on the ground nor on our improvised work tables. Consequently they were rarely disturbed by aught save the collector's greatest enemy—ants.

One night, however, when it had grown very late and I was too tired to finish my work, I tied a tag to each of two small spiney rats of an abundant species and left them lying on the ground beneath my hammock. To my surprise, when I awoke the next morning they had disappeared. As usual, there was evidence in the dust that I had had visitors during the night. Among the tracks was the trail of a good-sized snake! But I never thought of accusing it of being the thief, as it is commonly believed that snakes will not eat anything but the prey that they themselves kill.

Still wondering what the marauder could have been, I set out early for my day's hunt. A few hundred yards from my camp I came upon a five-foot rattlesnake moving among some rocks not twenty feet from the trail I was following. As I came to a halt the snake stopped and lifted its head.

But it neither coiled nor rattled. I approached slowly, hoping to get it without injuring its skin, which appeared to be an unusually good one. When within about ten feet of the reptile it stopped and drew itself into an attitude of defense ready to strike. The tip of the tail was raised and vibrating ominously. A charge of light bird-shot put an end to its defiance. As it was too big and heavy to lug about with my bag of small birds and not wanting to lose so fine a specimen, I took it back to camp. The native skinners set to work at once. On opening the snake the first things they found were my missing specimens that had disappeared the night before; even the tags were intact!

Another encounter with a rattlesnake near the same camp occurred one morning when trailing a family of pretty little blue warblers that persistently had eluded me. I had followed them from the lowland of the river bottom, finally overtaking them high up on a rocky hillside, which was studded with scattered trees, tangled shrubs and grass in thick clumps. As it was a region where I had often seen rattlesnakes, I tried to keep one eye on the ground while watching the birds.

I finally got the shot I wanted and dropped my bird. It fell directly into a clump of tall grass be-

neath the branch of a tree on which it had been perched. Reaching the spot, I carefully separated the grass with my hands. As I did so I caught sight of a dark object that I took to be my bird. I reached for it, but my hand touched something that was not soft and downy. It was the scaly body of a snake. I jumped as if shot. Then I used my gunbarrel to part the grass. The warbler had fallen directly onto the coils of a big rattler! Why I wasn't bitten I don't know, but I do know that within thirty seconds I had added a fine snakeskin to my collection.

There is a mistaken belief that natives are immune to snake-bite. Perhaps the effect of certain kinds of snake poison is less violent with them than it is with the white men because their forbears, who for generations have recovered from snake bites, have passed on to them a certain immunity. Besides there is no doubt that they have a knowledge of certain herbs and plants that are effective antidotes. But if there is any sort of true immunity it comes mostly from the native's inherent skill in seeing and avoiding a snake when on the march.

On the upper Orinoco I had a group of natives working ahead of me, clearing a path through the jungle, along which I could travel noiselessly in my hunting. Such paths I frequently had cleared as an

aid to my work. They were soon taken advantage of by the creatures of the forest. One morning I was far in the rear of my trail cutters when I heard the soft thud of naked feet along the trail ahead. A brown runner burst upon me, much agitated and scarcely able to talk.

"Urano—snake—bit him!" he panted.

I was prepared for just such an emergency, as I carried a first-aid-kit. Without waiting for the native to give me further details I hurried ahead. When I reached the spot I found the others grouped around one of my men who lay on the ground.

"The white man comes," one of them announced. All but one, the brother of the stricken man, drew back. He remained sitting by the side of his kinsman.

"It is too late!" he said in a voice of resignation and without any show of emotion.

That the brother should have abandoned hope so soon was not surprising to me. I have found the philosophy of almost all dwellers in the world of out of doors, be they civilized or uncivilized, is that of *whatever is to be, will be.*

To have attempted reassurance would have been futile. Although bitten not over an hour before, the man was apparently already unconsicous and the

LOS ANGELES MUSEUM
EXPOSITION PARK

body perceptibly swollen, which meant that the venom must have been unusually virulent. When I had unbuckled and opened my medicine kit I knelt down and took hold of the unconscious man's wrist. I was indeed too late—there was no pulse.

A few words sufficed to tell me what had happened. The man had been bitten by a fer-de-lance, the most deadly of the South American snakes, soon after I had last set eyes on him, less than two hours before. Resigned to whatever was to be, the natives had not even sent word to me until after his death, which had probably followed within thirty minutes from the time he was bitten.

On one occasion I came near to being the victim of a fer-de-lance. It was the winter of 1902, when I was trapping small mammals on the Approague River in the interior of French Guiana. I had taken up my quarters in an old ranch house which was near the river, but surrounded with jungle and forest on three sides. Next morning the tracks in the dust on the dirt floor of my house told me that many small animals had passed that way during the night. As they were the sort of game I was interested in at the time I set a good many traps close about my camp. I placed three or four beneath some packing cases that, to keep dampness

out, had been raised several inches off the ground on small logs. My hammock was swung close by the side of these cases. I am naturally a very light sleeper, the slightest sound awakening me. If a trap was sprung, in or near the camp, I was sure to hear it. I kept a lantern burning by the side of my hammock, and if awakened by the springing of a trap, I would get up, and remove any animal that had been captured. Those caught during the night I dropped into alcohol or a formalin solution to preserve them until I should have time to make up the skins the following day.

One night, after having tramped all day and worked until after midnight taking care of my specimens, I was so tired that when I finally crept into my hammock, I fell asleep almost at once. The springing of one of the traps beneath the boxes piled near my hammock awakened me. I could hear it being thrashed about, but I was too tired and too sleepy to care and then I did a very foolish thing. Instead of reaching for the lantern, I leaned out over the edge of the hammock and felt about in the darkness for the trap which I could hear thumping about but could not see. Finally my hand touched the trap. When I started to draw it out I at once realized, judging from the weight, that it held an animal of

some size. As the lantern's light fell upon it all drowsiness left me in a flash. The head of a snake was darting again and again in an effort to reach my hand, which it missed by the fraction of an inch. With the first glance I knew the snake to be a fer-de-lance. It had been caught several inches back from its head. In a small fraction of a second I let that trap drop! Wide awake I catapulted out the opposite side of the hammock. Quickly I unscrewed the top from a large can of formalin. And, with the aid of two forked sticks, I lifted the snake, trap and all, and dropped it into the formalin. Thereafter when a trap was sprung at night I reached for the lantern first.

Probably a hundred times in my life I have barely missed being bitten by a venomous snake. Every traveller in the wilderness has much the same experience. Why then aren't more men killed by snake bite?

I think the answer, as far as South America is concerned, where I have had the widest experience, is that poisonous snakes, with the exception of the fer-de-lance and the bushmaster, both of which strike without provocation, are not naturally combative animals. Only when cornered they strike to kill. But if not cornered, and they have been

warned by the footsteps of an oncoming hunter, they will make an effort to escape rather than be forced to fight. Scores of times I have seen venomous snakes disappearing on one side or the other from forest paths I have been travelling.

Brought up from childhood to be on the alert, Indians, half-breeds and other native dwellers in the tropical forests, see, smell and even *feel* the presence of a snake as if by instinct. The white man lacks that instinct and the knowledge of what chances may be taken with the average snake. Hence the native dwellers in the jungle country are not bitten so often as the white man would be under the same circumstances.

In 1913, I was journeying with a pack train from Bogota, the capital of Columbia, to Villavicencio, through the central chain of the Andes. The narrow mountain trails are just as narrow today as they were four centuries ago at the time of the Spanish Conquest. At first the trail we followed was banked on either side with a heavy growth of bushes and trees. But as we approached the timberline there was less and less vegetation and the forest growth became dwarfed and scattered.

The shoulder of the mountain which the trail skirted grew steeper. A majestic view was unfolded

before us. Great peaks towered above. Below us a silvery river wound its course between rolling foothills clad in impenetrable jungle. Between my horse's feet and the edge of the trail were but a few inchs of gravel-like surface. And where this surface ended, there was a vertical drop of more than two thousand feet.

I tried to keep my eyes on the scenery, on the trail ahead and on the azure sky; anywhere but on the brink of that precipice. Mules and horses that have been used as pack animals invariably walk on the outer edge of these narrow trails. Not that they court danger, but experience has taught them there is even a greater peril on the inside should a pack bump against the side wall causing them to lose their balance. Perched as I was on a mule's back, I instinctively leaned toward the inside of the trail. It seemed to me that my animal at times actually swayed out over the giddy space between us and the rocks so far below. It is only after long familiarity with Andean trails that one loses this inherent fear. And the fear is not without foundation. Numerous little crosses mark the sites of bygone tragedies. It was my first experience, and I could not but marvel at my guide who with one leg thrown over the pommel of the saddle, calmly smoked a cigarette and

droned a native song to himself as if he were travelling on a broad highway instead of teetering on the brink of eternity.

I was in advance of the pack train. We rounded a sharp turn of the trail and came suddenly upon two Indians on foot, a man and a woman, travelling in the opposite direction, and carrying several rolls of grass matting. They were a disreputable looking pair, ragged and dirty; and both evidently much the worse for too liberal libations of native *chicha.* Confronted by the pack train, they stopped, swaying unsteadily on their feet, but they managed somehow to prop their rolls of matting against the wall of rock on the inside of the trail and backed themselves up against the wall. The mule I was riding was new to the trail and had shown considerable nervousness. When we came upon the Indians, she stopped abruptly. It was one of the narrowest points where pack animals going in opposite directions could not possibly pass one another; there was barely room for a pack train to proceed single file. When the Indians had flattened themselves against the wall I attempted to urge my mule forward. But, mule-like, it took a good deal of urging and a vigorous dig with my spurs. When she finally moved on, it was with reluctance, apparently as nervous at the

presence of the Indians as of the small space they left between them and the abyss. As I drew opposite the half intoxicated woman she swayed to one side, knocking over a roll of the matting that fell directly at the feet of my mount. The mule reared up with fright, wheeling toward the canyon. Why we didn't topple over the precipice, I don't know.

I threw myself out of the saddle backward and toward the inner side of the trail, unconsciously retaining a grip on the rein. With my weight removed, the mule managed somehow to regain her balance. The Indians whose carelessness had so nearly caused an accident stood stolidly indifferent as we passed.

* * *

Dangers from floods are not always easily eluded in the South American wilderness. When one is far back in the interior of mountainous country following little-used trails, or blazing one's own trail, travel schedules are usually disturbed by unexpected difficulties. After a few hours of torrential rain, brooks, that at low water might easily be forded, become impassable roaring torrents.

We encountered just such conditions on the Collins-Day expedition. In 1915 Alfred Collins,

Garnet Day and I reached the mouth of the Rio San Antonio, a tributary of the Rio Esperito Santo, among the foothills of the eastern slopes of the Bolivian Andes. On our way down from the mountains we crossed many a swollen stream, each one worse than the last. We had taken a good many chances in our haste to reach the point where we must cross the Rio San Antonio before the height of the rainy season.

To our consternation we found the river was by this time a raging torrent. It would have been more prudent to have waited where we were for the rains to subside; but we had already overstayed our time and our supplies were low. I felt that we must cross if we possibly could. My suggestion, however, that we attempt to swim the pack train met with violent opposition.

"My men will not go," said our head *arriero* stoutly. "And they will not urge their horses to try it."

Knowing that the guide was not only courageous but usually ready to take a sporting chance, we curbed our impatience and took his advice. But after three days' waiting, the river fell a few feet, and I felt that we should then try to make the crossing. So we made the attempt. But the only result

was to see three of our pack animals swept helplessly away to their deaths in the raging flood.

Two days later we shifted our camp to a small island about a hundred feet from our side of the river. As its summit seemed well above high water mark, and as there were no indications that it had ever been submerged, it seemed a perfectly safe place to camp. Besides, it gave us a vantage point from which to work if the river took a sudden drop, as so often happens. But a few hours after shifting our camp the rain began to pour. All day long it came down in torrents. The sky was a dull leaden gray, with never a vestige of blue in it, and no sign of change. I noticed that our men seemed unusually depressed. The pack animals were nervous. Although I saw no reason why we should apprehend danger or disaster, I could not shake off a feeling of uneasiness. Looking back now, I realize that we must all have had some premonition of peril.

The rain kept us inside our tents during the hours of daylight and when night came, the enforced idleness left me without the physical weariness that would induce sleep. My companions slept; but do what I would my eyelids refused to close. I was restless and uneasy. Time and again I rose and went to the river to see if it were rising. Stakes

that I placed at the water's edge showed that there was no perceptible change in the river's level.

Finally, sometime after midnight, the monotonous, unceasing roar of the storm and the swirl of the racing river in my ears, induced a troubled sleep from which I awakened with tense nerves listening for I knew not what. Then I dozed off again.

It was about 3:30 A.M. when I awakened with a start. For a moment I lay peering into the blackness, waiting for a flash of lightning, hardly daring to stir. By chance I put my hand over the side of my camp cot, and received something like an electric shock; it was plunged into cold water. I sprang to my feet in six inches of water. In the same moment the lightning's glare revealed all our belongings floating about the tent.

In a second's time my shouts had roused the camp. There was no need of explanation, no need to urge haste. There was a mad scramble to get loose articles into duffle bags. Wet and dry went in together; it was every man for himself. The lightning's vivid flashes showed the pack animals standing to their knees in the flood. The rain was coming down in torrents. Heavy peals of thunder followed each jagged flash that rent the sky.

Could we get back to the mainland with our equipment before the flood caught us? The water between us and safety was not deep; but it was racing at high speed and carried great logs, uprooted trees and tangled masses of driftwood downstream. Any one of these logs, bobbing up and down like corks, would capsize a horse and stun a man. Even worse would be entanglement in the branches of floating trees. In the darkness they were quite invisible and were revealed only with each succeeding lightning flash.

There was no order to our retreat. Momentarily the water was growing deeper and the current stronger. It was simply a mad race to escape and at the same time to save our precious equipment. We plunged in waist-deep, struggling to keep our feet against the racing flood. In twenty minutes after my awakening we had pulled the last wretched horse up on the muddy bank of the mainland. Men and animals, packs and tents were tangled in a confused mass at the edge of the river. We stood panting with excitement, and filled with awe as the lightning's glare disclosed the raging torrent that boiled and twisted over the island on which we had just been encamped!

At another time the river almost got me, but in

CAMP ON THE RIO ESPERITO SANTO.

THE COLLINS-DAY EXPEDITION IN BOLIVIA.

quite a different fashion. It was on the Orinoco where, with one boatman, a half-breed Venezuelan, I was searching for nests of the Hoatzin, a bird whose young are aquatic, swimming and diving with the greatest ease, despite the fact that the parent bird never goes into the water.

Nature has arranged that the hatching of the eggs should be coincident with the flood season and instinct acquired through the ages has taught the adult birds to build their nests in the tree tops at a height that will be but a few feet above high water mark. But instinct is sometimes at fault. Hundreds of nests built too low among the branches are submerged and their contents swept away.

I was anxious to secure nests, eggs and young, as at that time there were none in any of our museums. A week or two previous to the incident that I am going to narrate we had noticed that nest building had begun. The river had almost reached its flood stage.

As my own canoe was temporarily out of condition, I had rented one from a native. We started early one morning working our way upstream to the point where the birds were nesting. We kept out of the swift current as much as possible. Both of us paddled wherever there was open water, but fre-

quently we propelled ourselves along by pulling on the overhanging branches of the trees which were almost completely submerged by the high water.

I think I have spoken at another place of the stupendous rise of the Orinoco, the difference between high and low water varying from sixty to eighty feet. In many places, during the flood season, vast areas are inundated, the river in places being from twenty to forty miles in width. Wooded islands in the main stream and the forests along the shores, when the floods reach their height, are completely submerged or may show only as islands of tree tops.

As we worked our way, literally through the tree tops, we were exposed to no immediate danger provided we kept our canoe intact and right side up. When we finally reached the point where the Hoatzins were nesting, we began examining one nest after another. The greater part of them contained eggs only. Finally, as we approached one nest I saw two tiny little, black-skinned, almost naked young Hoatzins scramble over the edge of the nest. They dropped into the water and disappeared. Knowing their habits, we moored our canoe by holding onto some branches, feeling sure that if we kept quiet they would presently return, emerge from the water and creep up among the branches by means of bill

and claws in order to regain the nest. We were intent on watching the bits of driftwood that eddied and whirled below the nest, expecting at any moment to see a little Hoatzin's head emerge in order to find out if the coast were clear.

So intently were we watching for the birds that we were oblivious to the fact that our canoe was gradually sinking. My first intimation was feeling the water coming up over my feet around my ankles. A more unpleasant situation could hardly be conceived of. It was all but desperate. We were eight to ten miles from the nearest shore. The waters about us were infested with crocodiles and the equally dangerous carniverous fish, the Piraña. Of course we might crawl into the branches of one of the trees but it would only be to face starvation, as there was absolutely no way in which we could summon help.

My half-breed suddenly lost his head. With a cry of fear, he began hurling things out of the canoe. It was an insane thing to do. In case we were marooned, it would only be tightening the noose about our own necks. In his frantic fear, one of the first things he chose to throw out was the calibash bowl, which we used for bailing. As I am quite proficient in high-power Spanish, I am

sure what I said to that native would not look well here. But it had the desired effect of bringing him to his senses.

To my amazement I found that we had a large hole in the stern of our boat directly under the seat on which I had been paddling. This hole had been plugged by the simple and absurd method of ramming old rags into it! During the pushing and pulling of our canoe over thorny vines and through the branches of the tree tops the wadding had been gradually loosened and finally pulled out.

There was only one thing to do; plug the hole with more rags. And the only rags that were immediately available were those on my own back. My naked companion could lend no assistance on this score. I tore off my shirt and trousers, rolled the garments into a ball and rammed them into the leak. The canoe was almost on the point of foundering. The bailer had floated away. The native was frantically scooping water out of the canoe with his hands. All this time I had been wearing a sun helmet; suddenly it occurred to me that I had a perfectly good bailer. Snatching it from my head, I set to work. After frantic effort we succeeded in ridding the canoe of most of the water. Our next problem was to work our way to open water where

there would be less danger of the rags in the hole being torn out a second time. We maneuvered very cautiously, pushing and pulling, and every few moments taking a look at the plug in the canoe. Once we had reached clear water and despite the swift current, we turned the prow of our boat upstream for the nearest landing lay that way. There was no need to urge my companion to bend over his paddle. We were both working to save our lives and drove that canoe against the stubborn current with amazing speed. A few hours later we reached dry land where my boatman successfully patched the canoe.

Perhaps it is not necessary to add that the Hoatzins were temporarily forgotten.

* * *

Dangers and narrow escapes in the lives of explorers are not always associated with the forces of nature or the wild creatures of the forest. Often man becomes the greatest and most deadly menace of them all.

In that part of the interior of South America near the head waters of the Orinoco, there is a region with vaguely defined boundary lines, known as Territorio Amazonas. There the three republics, Brazil, Colombia and Venezuela meet. Formerly

it was, and probably today is, a fairly safe refuge for a class of men who find climatic conditions more salubrious near an alien border line.

On one occasion in that territory I employed a couple of boatmen without investigating their antecedents. They proved to be good boatmen; but after we had arrived above the Atures rapids on the Orinoco the pair began to make trouble. One evening, after tossing about in my hammock for an hour or two and not being able to sleep, I got up and wandered quietly about the camp to make sure that all was shipshape. Near one of the small tents I was surprised to hear low voices. It was my boatmen whispering. I stopped and listened. They were discussing the value of my cargo and bargaining with one another about the shares that would fall to each after the *patron* was disposed of. I listened long enough to learn that they planned to make their coup at the next rapids when I was "accidently" to *fall into the rapids!*

The following morning I made sure that several of the crew would remain faithful to me if it came to a showdown. I then ordered the two conspirators seized and bound. Much to my relief there was no hesitancy in the carrying out of my orders. The pair had not made themselves popular. My

men were afraid of them; but under my direction they were quick to act and the conspirators were not handled gently. They were dumped ashore at the next Indian camp that we passed. Thus by pure accident I not only saved my possessions, but probably the lives of myself and some of my men.

I always consider one of the closest shaves I ever had came when I stood by the side of a friend while his enemy fired five shots point-blank at us. The scene of the incident was the plaza of a capitol city of a neighboring republic. My friend, a doctor, had a pleasing personality and was a popular and successful practitioner. Among his patients was a beautiful girl, the daughter of a man high in government circles. The doctor was a "fast worker" and the girl fell for him. The family, naturally perhaps, were furious. They first sent a peremptory demand that he leave the city. But my friend was a Texan and not accustomed to being ordered about.

In the majority of towns and cities in Spanish America it is customary to have an outdoor concert one or two evenings every week in the public park. One evening the doctor and I walked down to the park together. We hoped, or rather *he* hoped—and expected, to meet the girl. We made two or three

circuits of the park, and had spoken to friends here and there without seeing her. Then, arriving at the corner where she would probably first appear, we stood expectantly waiting.

To our dismay, instead of the young lady appearing, her brother, with whom neither of us were acquainted nor so much as knew by sight, suddenly strode up, with a riding whip in his hand. Without a word of greeting or explanation, he struck a sharp blow with the whip across my friend's face; and at the same moment informed him, in Spanish that he meant to kill him.

The doctor, who did not understand Spanish well, backed off a step before turning to me and asking: "What did the blankety-blank say?"

I translated as quickly as I could. But, before I had finished, the man whipped a revolver from his pocket and fired point-blank. The doctor and I stood still, he making frantic efforts to get his gun out of his pocket. By the time he was ready for action, the man, who had emptied his gun, had turned and was running from us. My friend, still deliberate, quietly observed: "The son-of-a-gun—I'll wing him!" Whereupon he took quick aim and fired. The man went down in a heap with a shattered knee.

Turning to me, the doctor said: "He'll not forget this meeting soon." He then slipped his gun back into his pocket and turned to go. But by that time half a dozen police had surrounded us and promptly put us under arrest. A great crowd followed us to the jail and it wasn't a friendly crowd. A number with raucous voices were shouting, "Lynch the *machos,*" (mules—an uncomplimentary name for all Americans, who were not popular at the time). But for the police we should at least have been roughly handled. Excitement ran high and a number of our friends took it upon themselves to telegraph down the railroad line to Americans in charge of construction. We spent that night in jail, but before morning fifty of our countrymen, armed to the teeth, were patrolling the streets. Against their threats several machine guns had been set up by the authorities at intersections of the streets leading to the jail. Fortunately there were a few cool heads on both sides. So, after a few days negotiating with the authorities, it was wisely concluded best to send my friend out of the country. To my surprise he finally agreed to go. However, I still remember vividly the sensation of being fired at point-blank, round after round, even though the would-be murderer was a poor marksman.

I had a good deal more bloody and also more violent encounter with a murderer on the West Coast. With two companions, I was carrying on natural history work, not far from the Peruvian frontier. The day preceding the incident we had shifted our camp to a new locality, arriving late in the afternoon. And although the distance travelled in an air line had not been great, we had dropped to a considerably lower altitude and the character of the country had changed. I was eager to get out and see what the changes in bird and other animal life had been.

After an early breakfast and with the sun just peeping over the edge of the hills, I left camp, following back over our last evening's trail. As I descended a long hill I picked up two or three birds, then crossed a brook and began the ascent on the other side. At the moment there was to my left a dense thicket of low trees and shrubs at the foot of an embankment around which the trail wound. Ever on the alert for new birds I was exploring the branches of a tree that overhung this thicket. Turning, I suddenly found myself looking into the muzzle of a double-barrelled shotgun behind which there leered the evil face of a half-breed whom I had discharged some months before

for pilfering! He had felt aggrieved and had openly sworn to get even with me; and from time to time I had heard of his boastings about what he would do to the *gringo*. As he stood before me with levelled gun, not fifty feet away, he reminded me of his threat.

If one man ever had the drop on another he certainly had it on me. In the first place, I had been so engrossed in my hunting that danger from a human being was the last thing in the world that would have come to my mind. Furthermore, the fellow had his gun levelled at my breast, his finger on the trigger before I was aware of his presence.

What my sensations were, I cannot recall. My mind was wholly, if unconsciously, occupied in finding a way to postpone the man's action until I could reason with him; or, barring that, act quickly enough to forestall his intention. I think I acted from instinct only. For no specific reason I began to walk slowly towards him. My gun was over my right shoulder and I realized that my every movement was watched. Why he did not shoot I don't know. When within about twenty feet of him, and absolutely without premeditation, I swung my gun down and pulled the trigger. The man went down. At the same moment I felt a terrific blow and a

sharp pain in my arm. I did not realize that he had fired, but thought that some one from behind had struck me with a club.

I whirled about, expecting to be confronted by a confederate. No one was there. Then, so sharp was the pain in my arm, that I raised it to see what had struck me. At that moment the first spurt of blood came, and I saw that the whole under side had been shot away. From the way the blood poured forth I realized that the arteries had been severed. Dropping my own gun, that I still clutched, I endeavored to cover the wound with my hand; but the hand wasn't big enough. Taking a handkerchief out of my pocket I wrapped it as best I could around the arm, drawing it tight and tying it with the aid of my teeth. Despite this makeshift tourniquet the blood continued to flow in a steady stream.

I stood for the space of a few seconds, undecided what to do. Then the half-breed's body caught my eye. He had not moved. I stepped over and knelt down by his side but one glance at his chest convinced me he would never move again. My next thought was to reach my camp. I estimated I was a mile or more away. My actions were largely automatic. Tucking my bag of birds and my gun under

my good arm; and, trying to staunch part of the flow of blood by holding the wounded arm close to my body, I started for camp. There was comparatively little pain at first; but I knew from the way my hand hung that the arm bones were shattered. As I walked the loss of blood was so great that I thought I should bleed to death. I said to myself several times: "This ends Cherrie." I was yet to learn just how tough Cherrie was.

At the camp I found one of my assistants. Having held the wounded arm close to my body the blood had streamed down over shirt and trousers, the sight of which caused the poor chap nearly to lose his senses. When I asked him to hurry and get bandages out of my trunk and mix an antiseptic solution, he was too overcome to carry out my orders. One of my shirts which chanced to be hanging on the wall above my cot caught my eye and I directed him to tear it into strips. One of the strips I had put on as a ligature above the elbow. The tourniquet on, a roll of absorbent cotton was found, saturated with camphenol and the arm bandaged.

But despite tourniquet and bandage, the blood still continued to flow. I remember thinking that if I could not stop the blood that this at least had the

advantage of being a nice easy way to "shuffle off." However, the tourniquet did somewhat slacken the flow of blood. My next thought was where to get medical aid.

To stay where I was meant inevitable infection and death. The nearest doctor I knew of was at Porto Velo. Possibly there might be one at Santa Rosa. Porto Velo was 150 miles away over a well known trail. Santa Rosa was between ninety and one hundred miles over an unknown trail. Neither I nor any of my companions had ever been over the trail to Santa Rosa, but I determined to try for it as I felt it might be possible to reach that point in time to catch the weekly steamer for Guayaquil which sailed from Santa Rosa every Saturday morning.

Having decided to try for Santa Rosa and Guayaquil, where I knew there was a hospital with modern equipment and a skilled surgeon, I told my cook to make up his pack with cooking utensils and food for the journey; also to find one of the wranglers and get horses ready. I left word for one of my assistants to follow with the cook and our horses. I then started alone walking down the trail that I had been told led to Santa Rosa.

It was Wednesday morning and I had only three days and nights in which to catch the boat.

In the middle of the afternoon my assistant with the men and horses overtook me. I had walked a long distance despite my having sat down to rest at frequent intervals. As soon as the horses came up, I was helped into the saddle. I had looked forward to riding; but by that time my arm had grown very painful. The jarring from the horse's movements, even when walking slowly, caused me such excrutiating pain that I soon had to dismount. I was helped out of the saddle and went ahead on foot. I had lost so much blood that I was weak and was frequently compelled to sit down and rest.

The trail led past numerous little Indian settlements of palm-thatched adobe huts where I would stop to rest or to get a drink of water. The inhabitants were curious to know what had happened. My blood-stained shirt and trousers told them part of the story; but they always asked for details. When they heard that I had been shot they were full of sympathy mixed with much fatalism.

Their usual comment was: "It is a fatal wound. Señor, you will die."

Just before sundown we camped on a wooded hillside. Strange to say, and in spite of my long walk, I had no temperature and little pain.

By daylight Thursday the camp was astir. Although I had slept but fitfully I felt somewhat refreshed. Again I attempted to ride, but found it so painful that once more my companions assisted me out of the saddle and I continued to walk. Feeling that I must eat something to keep up my strength, I tried to swallow some of the food that the cook had carefully prepared for me before we started.

At noon that day the last of the chickens the cook had thoughtfully brought with him was stewed and I was able to take some of the broth. Thereafter when we passed through one of the little Indian settlements of two or three families, we would always try to buy chickens. Before commencing negotiations, however, native curiosity had to be satisfied. "What has happened?" was the invariable question as they looked me over. My shirt and trousers were by this time disgustingly matted with blood. When the people were told I had been shot they replied in the same stolid fashion as those we met the day before: "It is a fatal wound. You will die."

To which I always replied: *"Tal ves"* (perhaps).

When we renewed our request for a chicken, they seemed surprised and would ejaculate, "But this is a fatal wound. You are going to die." In other words, why waste a perfectly good chicken on a man who was doomed?

Reasoning thus, with one exception, they refused to sell us any. The exception was an old Indian woman who, when asked if she would sell me one, said "No"; but went out, killed one of her chickens and made me a broth while we lay resting in her little palm-thatched hut. I paid her—but she accepted the money under protest.

All day Thursday we followed a rough and winding trail, fording streams and climbing over mountain ridges. There was little sleep Thursday night. The men with me were tired out; but after a short rest for myself I called them from their sleep and we travelled on. I knew it would be fatal if I missed the Saturday boat.

Friday was like Thursday. All day long we travelled through the interminable forest about us. We had no idea how far we were from Santa Rosa. Friday night came and I walked practically all night long. I was in a sort of stupor much of the time, but my legs still worked. Saturday morning the sun came up as usual, burning hot. Still there was

nothing before us except endless forest and the narrow trail. And I knew that the one boat of the week for Guayaquil was due to sail at about ten o'clock that morning. It began to look as if I were doomed.

The hot sun climbed higher. Just before noon I staggered into the little settlement of Santa Rosa. From the first person I met I inquired about the boat for Guayaquil. His answer was: "*Se fuey!*" (she's gone!)

That was the only time during the journey I felt like giving up the fight. I knew that my arm was already infected; and it was frightfully swollen. I have never to my knowledge fainted; but at that moment I felt so weak and dizzy that I was compelled to sit down. However, after a few moments' rest I was able to trudge on, followed by a curious crowd. I staggered down toward the boat landing and began making inquiries about the possibility of another boat. It was soon clear that there was no other boat for a week. But just as I was about to abandon hope some one suggested that the little steamer would stop at the next port, Porto Bolivar, and would not sail from there until midnight. My informant thought that it might be pos-

THE NATIVES WITH STOLID INDIFFERENCE WATCHED FROM THE DOORWAYS OF THEIR WATTLED HOUSES.

HERE THE WHITE FLAG EXPOSED BEFORE THE DOOR IN ONE OF THE NARROW STREETS MEANS THERE IS NATIVE "CHICHA" FOR SALE.

sible to overtake the steamer in a canoe, by paddling down the coast.

Those to whom I first applied would not go; but finally I succeeded in getting a canoe with four paddlers. Shortly after midday we started down the coast for Porto Bolivar. Of the entire journey that is the only part I look back on with horror. The canoe was so narrow, and so small that it was impossible for me to lie at full length. I was compelled to sit on the hard uncushioned bottom. My arm ached horribly, and I felt as if I were being parboiled by the heat of the merciless sun. Somehow the dreadful afternoon wore away; darkness came down and the skies were set with glittering stars that in my delirium seemed to wax and wane in brilliance. As the hours passed I grew uneasy. The little steamer was my last hope. There was no sign of the lights which would mark her as she lay near the pier of the little port.

Midnight came. Hope was fading, when away in the distance we saw a few twinkling lights. It must be the steamer. My paddlers, who had worked faithfully for many hours, now bent to their paddles with renewed vigor. But when we were perhaps five hundred yards from the steamer we heard the sound of her engine bell. She was casting off. My

men shouted and wielded their paddles frantically. To my great relief, before the steamer could gain headway, my canoe shot alongside her. My men attracted attention by their shouting. The engines stopped. I was lifted on board, with my cargo of pain, and felt hope revive; at last I was on the way to Guayaquil!

I slept very little that night, only dropping off occasionally into feverish dreams. Shortly after daylight we reached Guayaquil. But here there awaited us another disappointment. Instead of going up to her dock as she usually did, the steamer anchored in the middle of the stream. I was desperate. I knew that if I did not reach the hospital soon it would be of no avail. But to my inquiry from the captain as to the cause of the delay, his only reply was a shrug of his shoulders. I noticed considerable activity on shore, followed by some sort of signal to the steamer. At this the anchors were hove up and we steamed to the dock.

Still dressed in shirt and trousers caked with blood I staggered down the gangplank ahead of every one else. As I stepped on to the dock an officer came forward and stopped me. "You're under arrest!" he announced.

When I asked why, his reply was: "For murder in Peru."

"Yes, I've killed a man," I admitted. "But you see I'm very badly hurt. I can't get away from you. I want to go to the hospital. You can send a couple of your men with me to guard me if you wish."

He considered the matter a few moments, then conferred with other officers and I was permited to go on, followed by a curious crowd.

Fortunately when I reached the hospital Dr. H. B. Parker, one-time health commissioner of the City of New York, and a personal friend, was there. I was immediately placed on an operating table and Dr. Parker dressed the arm.

Strange to say, when I reached the hospital, I was temporarily without fever and in a normal state of mind. But within thirty minutes I was delirious and have no recollection of what occurred during the following four days. What happened during that delirium I am able to give from Dr. Parker's subsequent account to me.

After the dressing of the arm, Dr. Parker and his assistant left the room. He at once asked: "When will you amputate?" Dr. Parker's reply was: "There will be no amputation. Mr. Cherrie will be dead in the morning!" He then went to the telephone, called

the American consul, and reported that I was there, delirious, and fatally wounded.

To Dr. Parker's amazement I was still alive the morning following. Tubes were inserted into the shattered arm and every ten minutes night and day Dakin solution was forced into the wound. At the end of eight days the infection had so far subsided that Dr. Parker called a number of surgeons in consultation and concluded it would be possible to save the arm. That afternoon he operated. Two and a half inches of the shattered ulna were removed in broken bits. Ten days later he performed a second operation, removing still more bone.

The healing of the arm was a long tedious process and it was some time before the doctor and the head nurse would even permit me to look at the wound. When I was finally allowed to examine my own arm the nurse said to me: "If I hold the mirror so that you can see the arm are you sure that you won't faint?"

I told her that inasmuch as I hadn't fainted when I was shot, nor at any other time in my life, I thought I would be able to bear the shock; which as it happened, didn't shock me at all, though I saw that the whole under side of my arm had been torn away.

For five and a half months I lay in that hospital. Two more operations were performed and at the end of that time Parker told me: "Cherrie, I can do no more for you. I don't know if you will ever again use your arm. I want you to go to New York. You are strong enough now to travel. And there is a young surgeon going up who will attend to you during the journey."

I should add a word as to how long the police surveillance at the hospital continued. Their patience lasted intermittently for about six weeks; then they disappeared. I have many good friends in South America, and at Guayaquil in particular. No one interfered when I was ready to leave the hospital. Up to date I have heard nothing more about the "murder in Peru," with which I was charged.

PART FOUR

THE CHASE

THE true naturalist is a hunter, not an assassin. He kills without ever being deliberately cruel. His aim is the advancement of science, and his success is achievement, not triumph.

In my museum collecting I have secured well over one hundred thousand specimens of mammals, birds, reptiles and other animals. And I do not think I am straining my imagination when I say that size made very little difference in the thrill or pleasure I got in the pursuit of my specimens. The determining factor in my reward was always the degree of ingenuity required to capture my game.

Probably the collecting of insects would not ordinarily be looked upon in the light of adventure; yet this sort of work, and I am not an entomologist, has its adventures, though perhaps less thrilling than the hunting of a jaguar.

I find that one rainy night of June, 1918, is noted in my diary. I was on the Orinoco at the time.

My camp was near enough to the bank of the river to get the evening breeze; and yet the sultry humid air made sleep almost impossible.

I amused myself by rigging up a special light to attract night insects. I had a kerosene lamp fitted with three large burners within a single chimney, giving me an illumination of unusual strength. This I fastened in the bottom of a soap box with a good reflector behind the chimney. I could shift the beam in any direction by simply turning the box from side to side. By turning the rays of light from my lantern onto a sheet suspended from a branch ten to twenty feet distant, I had a fine target for all sorts of flying insects and they were legion.

Ordinarily a night's collecting was merely the leisurely picking and choosing from the many insects attracted by the light. On the night of which I speak there was a drizzling rain. I had hung up my sheet as usual but for some unaccountable reason insects had not come in large numbers. So I turned the light's beam out into the pitchy darkness which was hatched across by innumerable lines of watery gray. Almost immediately swarms of insects began pouring into the brilliant cone, beetles outnumbering all other species. In twenty minutes

their attack upon my light was like that of swarming bees hunting a new hive. The impact of innumerable heavy-bodied beetles and mole-crickets sounded like handfuls of pebbles as they struck the lamp chimney and the reflector. As I worked selecting the better specimens, I received many a stinging blow on my face and neck and soon found it necessary to swathe my head in a towel and to put on goggles and gloves against the insect shrapnel.

As the numbers multiplied an idea occurred to me. With a piece of tin I fashioned a funnel leading from the bottom of the reflector and emptying into a twelve-quart galvanized pail into which I poured a solution of formaline. Insects striking the reflector dropped into the funnel and rolled down into the pail. As soon as I knew that my scheme was working, I retired to my hammock and, pulling a light blanket up over my head, went to sleep.

The morning's light revealed the results of my invention: a brimming pail of insects, I don't know how many thousand. It was noon before I completed sorting them over, saving no less than 6,700 specimens!

I presume one must have the instincts of a naturalist to get pleasure from watching such small creatures. But the ingenuity they display in overcoming

difficulties is a fascinating study. This is especially true of the ants. In my tropical wanderings I have often derived the greatest entertainment watching these active, industrious little people.

At San Fernando de Atabapo on the Upper Orinoco I recall seeing a battle between an enormous centipede and a battalion of army ants. In the van of and following the armies of ants (made up of countless thousands) that forage through the tropical forests, one is pretty sure to find various species of insectivorous birds, preying upon the insects that attempt to escape the oncoming host. On the day that I have in mind I had been keeping in front of an army of ants, hoping to secure some rare birds. For some distance their battalions had been deployed on both sides of a well-worn trail. I was just ahead of the advancing columns. Suddenly, as I was watching a line of ants, I saw a big centipede scurry out from a pile of leaves and disappear beneath a piece of dead bark.

The centipede apparently knew the danger he was in. He must have scented trouble when he left his hiding place and sought concealment under the bark. I watched, wondering how long it would be before he was discovered. The answer came quickly. Half a dozen or more of the advance guard disappeared

beneath the bark. A second later the centipede came hurrying out. Several of the ants were clinging to his legs.

I have no doubt that the good news was relayed back in loud ant language. The centipede rushed blindly across another advancing column and more of his enemies managed to get a grip and hold on. There were enough by that time to impede his movements considerably. Of course to the ants he was of mammoth size and incredible strength. Nevertheless, they did not relinquish their hold, but clung tenaciously to their struggling victim until reinforcements arrived.

Within a few inches of my boot the centipede stopped, rolled over and over, writhing and twisting in an effort to free himself from his enemies. But it was a fatal move. It gave the main column time to overtake him. The final attack was in the nature of a charge. In less time than it takes to tell I lost sight of the centipede beneath a ferocious horde of ants that bit and tore at every portion of his anatomy. It was only a matter of minutes before the struggle was over. He lay still while the ants rapidly dismembered him. Some idea of the odds may be gained from the fact that the centipede measured roughly nine inches in length while

the largest ant was not over three-quarters of an inch long.

Birds are, perhaps, not as easily observed; but their size, often brilliant colors, and songs have made them general favorites with naturalists. Nevertheless there are many species whose habits are yet unknown. As birds have always held a special appeal to me, my museum field work included not only the collecting of specimens but a study of their habits as well.

My first systematic work with birds was done at my boyhood home in Iowa in the recording of dates of arrival and departure of the migrating birds. By compiling the records of many observers throughout the country for a number of years I gained a pretty accurate knowledge of bird migration. In recent years a new impetus has been given to bird study in the United States by what is known as "bird banding." Small aluminum bands as identification tags fastened about the legs of nestling birds and adult birds that are trapped and then liberated, make possible an accurate study of the migratory movements and other habits of birds so marked.

I believe this bird banding is supposed to have originated with naturalists in the United States.

But thirty years ago it was being practiced by the peons near Bebedero on the Pacific Coast of Costa Rica. The downy white young of black vultures that lived in that locality were frequently tagged. It was a not uncommon sight to see a dozen or more of these birds all wearing rawhide leather aprons dangling from their necks! These identification tags varied in shape and size. They were quadrangular pieces of leather which averaged about six inches in length by four inches in width, with a hole cut in one end large enough to slip over the head of the young vulture. Once on, the tag was there for life.

The natives were not interested in bird study, but found amusement in identifying the vultures they thus tagged. The different shaped apron-like tags enabled them to recognize birds that remained in that locality. The fact that the same birds were noted year after year was an interesting demonstration to me of their sedentary habits.

Incidentally, in Costa Rica the popular name of the black vulture is Zopilote; and the same name is applied, by the irreverent, to the hosts of priests that flock together and go about dressed in their long black gowns.

As I look back on my career as a naturalist, and in thinking of the various birds I have collected,

my experiences in collecting jabiru, the giant stork of South America are outstanding. I had observed these great storks many times before I actually made an effort to secure specimens; and perhaps the collecting would have been postponed much longer had it not been for my old friend, Dr. Frederick A. Lucas, at that time director of the Museum of the Brooklyn Institute. Early in the spring of 1907 he asked if I knew where to locate some of these great birds. If my memory serves me rightly, Dr. Lucas told me at that time that there was not a perfect skin or skeleton of the jabiru in any museum collection in America.

I had frequently seen them along the middle Orinoco in Venezuela; and as that was a favorite hunting ground of mine, it was there that I directed my steps.

I have never forgotton my first encounter with this magnificent bird which stands nearly five feet high. Its plumage is a glossy white, but the great bill, feet, legs and long naked neck (with the exception of a red band at the base) are ivory black. Then, as many times since, I was impressed with the beauty of the flight of the jabiru. To me it is without a rival. Even the flight of the condor is less impressive. As the jabiru runs forward to

gain momentum when taking flight from the level plain the wings are at first slightly spread, gradually widening their reach until the body leaves the ground to soar upwards like an aeroplane. The wings beat faster and faster as the bird begins to rise in a wide circle. At the same time, the long dangling legs are gradually drawn up until they stretch straight backward beneath the tail. As momentum increases the wing beats become less and less frequent as the great bird soars, in wide circles round and round, mounting higher and higher, until it is only a distant speck in the blue sky. It is visible at last only when the sun's rays are reflected from the glossy white body.

After I had made my way into the Llanos country above Ciudad Bolivar, the real search for these birds began. For about three weeks I hunted just about as hard as it is possible to hunt—that is, I tramped for long hours daily across the open plains, pushing my way through the underbrush bordering the water courses, through swamps and marshes, shifting my camp from time to time farther and farther up the Orinoco. But all was to no avail, there were no jabiru to be found.

Then I arranged an expedition back from the little town of Caicara. Three days after my start

I camped on the San Felice River near its union with the Cuchivero. Here, on the second morning after my arrival as I was wandering along the shores of a great marsh, I spied a jabiru on the opposite side, fully five hundred yards away. I wanted that jabiru and I wanted it badly. But the bird was alert and watchful; and I knew if I were going to get within reasonable range it would only be by some ruse.

I turned as though making away from the marsh until I had gotten behind a clump of bushes. There I crouched down on my hands and knees, creeping from one thicket to another, and finally wriggled along on my stomach to the very edge of the marsh. Carefully parting the reeds I looked out. My bird was still there. At the time I was using a 30-30 Sporting Mauser. I slipped a metal jacket bullet into the gun and from where I lay on the ground took careful aim as the bird stood quartering toward me. At the report of my gun the jabiru went down.

The next problem was to get him. To go around the big marsh meant an hour or more of tramping through the broiling sun. During that time some animal, or more likely the black vultures, might destroy my specimen. After my long hunt, the idea of losing it was not to be considered. There was

no choice. The only thing to do was to wade or swim across the marsh to the place where the bird had fallen.

But ponds and marshes in that part of the country are the favorite haunts of alligators, crocodiles and other disagreeable company. However, ignoring the possible encounter with some scaly inhabitant, I removed my clothing, placed it in a neat pile and laid my gun carefully on top. Taking my bush knife between my teeth I started across the marsh, wading most of the distance and swimming when necessary. Finally, and without any unpleasant encounters, although many a pair of sinister eyes watched my progress, I reached the opposite shore. Pushing my way through the belt of reeds I came into the open where I paused with a feeling of exultation. The jabiru lay before me, its white wings spread wide on the grass. I started forward to examine my prize when suddenly, without any warning, the bird struggled to its feet. It attempted to open its wings but was unable to do so. I instantly realized that my bullet had passed through the body probably breaking the bones of both wings. As I had used a metal jacketed bullet the hole that had been made was a very small one. A jabiru with both wings broken, despite the long powerful

bill that might prove a formidable weapon, I felt would be easy to capture.

As I walked forward with bush knife in hand, the bird started to walk away from me. I increased my pace somewhat. So did the jabiru and as his legs were quite as long as mine I had to increase my pace to a run. As he walked faster and faster I was soon sprinting for all I was worth. At the moment I thought only of getting that bird. But later when I remembered the incident I could only smile at the thought of what a ridiculous sight I must have presented, racing at top speed in "birthday dress," a bush knife in my hand, chasing a long legged bird across the open plain. But the race finally became too hot for me. Not only was the pace fast but as I was not accustomed to wandering over the plains of Venezuela in such scant attire I began to feel the sun's rays burn my back.

Winded, I finally gave up the chase. The jabiru had simply walked away from me! In anything but a happy frame of mind, I turned back, crossed the marsh, got my clothing and my gun and took up the hunt for jabiru once more.

A few days later, I was more fortunate. I shot several of these birds which I brought north and

which now form an exhibit in the Brooklyn museum.

On the Roosevelt-Rondon Expedition in 1913 we saw thousands of these birds as we ascended the Paraguay River; and later many nests were seen in trees that stood isolated from other forest growth, sometimes near the river's bank, and again well back in the open or *campo* country. But on this trip we obtained only two specimens. The time at our disposal was too short to make any extended observations as to their habits. However, on a later journey that I made to Fedegoso, Matto Grosso, I found several nests within a radius of about three miles of my camp. One of these nests contained half-grown young. Their behavior when the nest was discovered was amusing and interesting. At my approach, the two young birds, which had been sitting quietly side by side, got to their feet and began walking around and around the great platform of sticks that formed the nest. As I approached they came to the side of the nest and voiced their displeasure at my presence by viciously snapping their mandibles.

From the natives I learned that the jabirus' nests are used year after year, probably by the same pairs of birds, which never leave the locality where their nests are located. I have photographs of one nest

proving its continuous use for seven years. As I have already stated, the nests are usually placed in very large trees isolated from other forest growth. They consist of a great platform eight to ten feet in diameter composed of sticks, some of which are three or four and sometimes five feet in length. I found only one exception to the habit of building their nests in isolated trees, where a pair had chosen a tree in the center of an island-like wooded area occupied by a colony of wood-ibis. The jabiru had selected the tallest tree almost in the center of the colony, placing its great platform of sticks in the extreme top. From this vantage point the occupants had an unobstructed view of the country all about, and also could overlook the entire colony of wood-ibis below them.

In the crevices between the sticks of many jabirus' nests were built the nests of various small birds. Among others, the common green parrakeet very frequently used the bottom of the jabiru's nest as a foundation for its own.

Before closing my account of these birds I must add a story, current in the plains country of Venezuela, that attributes a victory over the Spanish troops during the War for Independence to the Garzon Soldado—the soldier heron—as the jabiru is

WOOD IBIS SURVEYED US WITH SUSPICION.

A YOUNG WOOD IBIS STEPPING OUT INTO THE WORLD.

called in that country. A small company of Venezuelan soldiers were entrapped by Spanish troops. As darkness descended, the Spaniards, feeling confident that the enemy could not escape, encamped for the night. At daybreak they made ready to attack but suddenly wheeled about and rode precipitately in the opposite direction. Astonished at their deliverance, the Venezuelans were overjoyed to see in the dim light of dawn a long line of soldiers in white coats with red collar bands and shiny black caps marching at a double quick straight towards the Spanish camp. The Spaniards, believing that enemy reinforcements had arrived, mounted their horses and fled. It was a company of jabiru marching in solemn procession toward their feeding ground near the Spanish camp. Is it any wonder the Venezuelan never disturbs the nests of the soldier heron?

On the Cherrie-Roosevelt Expedition in 1916, undertaken to supplement the natural history work of the "River of Doubt" expedition, I had an unusual opportunity to study wild life in general. Of the birds I found the rhea, or South American ostrich, one of the most interesting. So much has been written about the South African ostrich that it is a surprise to many people to learn that there is a species of ostrich also found in the western

hemisphere. The rhea is not so large nor so spectacular as its African cousin; but it has, nevertheless, much of interest to the naturalist.

After the successful termination of my jabiru hunting, I made my way to Descalvados on the Paraguay River. From there I covered a two days' journey eastward across the Pantanales to an outlying cattle camp. This camp consisted of half a dozen shacks with thatched roofs as a protection against sun and rain and was located in a part of the country that is inundated for about six months of the year. But I arrived there at the height of the dry season and so far as drinking water was concerned, the place might just as well have been located in the center of a desert. There was to be sure, a shallow pond, perhaps a hundred feet in diameter, but which was shrinking daily, located within a few rods of the ranch houses. There were six vaqueros, or cowboys, who lived there. Each day, on returning from their ride they would take their horses into the pond and carefully bathe them; less carefully bathe themselves and then dip up a sufficient quantity of the same water for drinking and kitchen purposes! There was no other water supply within many miles. In consequence that which we drank was always well boiled before use.

But no matter how much it was boiled, and despite liberal portions of tea or coffee, it was far from palatable. Obviously my first impression of the place was not a cheerful one.

But there was some compensation for having to live in such a spot. Wild rhea were frequently seen; sometimes not more than twenty-five yards from the camp. As long as they were not molested the birds acted as though unconscious of our presence, walking about and feeding in the most unconcerned fashion.

One day when I was preparing to start out on my day's ride an old male strutted out into the open to exhibit his family of twenty to thirty youngsters. The parent bird, when feeding, kept his head lowered for a few seconds at a time, then he would stretch his neck to its full length and look in every direction for approaching enemies. The flock of young followed closely at his heels; but at the slightest warning sound or sign they flattened themselves on the ground and lay motionless until the old bird gave the signal that danger was past.

The young were probably about a week old. I was anxious to secure a number of them to be used in the building of a museum group illustrating characteristic bird life of the Pantanales. We concluded

that here was our opportunity to ride down and capture some of them.

But the plan was much more easily said than done. Two of us put spurs to our horses and galloped as hard as the animals could go toward the old rhea and his brood. Although we gained on them it was a hard race and we had almost overtaken them when the young birds disappeared as if by magic. Probably by a preconcerted signal they had been scattering farther and farther from one another; and at the last moment the old male had given the signal to disappear. In any case, every bird was gone. As we knew to be their habit, they had flattened themselves on the ground with necks outstretched. And though we searched an area of perhaps a hundred yards and thought we had carefully examined every foot of the ground, not a single young rhea did we find! An hour or two later, when returning from the day's hunt we saw, off in the distance, the old rhea hurrying his flock of young toward a belt of timber which would offer even better concealment than in the open plain where they had so skillfully evaded us.

Ordinarily the adult birds keep to the open when feeding and if alarmed they depend on their speed to escape their enemies.

Family ties among the rhea are not closely drawn. The female rhea is a wanton. The rearing of a family is a responsibility she shirks. During the days of courtship and marriage she is morally lax. Home building, such as it is, is left entirely to the male, the female often not taking the trouble to deposit her eggs in the nest that has been prepared by her overworked mate but dropping them in casual fashion anywhere on the open plain. The labor of incubation and care of the young is left entirely to the male.

I remember coming unexpectedly upon an old male one morning when riding in a section of country where there were many clumps of trees with thick undergrowth, the combination offering admirable protection for game animals of all sorts. The moment the old fellow saw us he made a rush for the thick woods. His action was so unusual that we hurried after him as fast as possible, hoping that he would skulk along the edge of the forest so that we might learn what his haste was all about.

When we reached the margin of the woods the rhea had disappeared. We stopped and listened. To our surprise we caught the plaintive cries of distress of the young birds. Noting the direction of the sounds, we plunged into the thorny tangled

thicket, and regardless of torn clothes and lacerated hands, we forced our way through the underbrush. Up to that point the parent bird had kept out of sight; but as we pushed into the woods he abruptly broke cover and began to rush back and forth from side to side, at once urging and encouraging the young, with peculiar grunts, in their flight, and endeavoring to lead us off their trail. At frequent intervals he would shake his puny wings in a way that produced a peculiar rustling sound. He succeeded in keeping a majority of the young ahead of him but a few of the weaker ones fell behind, and were caught in a tangle of briars. His solicitude to rescue these led to their discovery and capture.

As soon as a young bird was caught it would at once cease struggling; but did we loose our hold, ever so slightly, the little thing would free itself with a quick jerk, and be off again and the race was on once more.

On that particular day we had neglected to bring with us anything in which to carry a dozen lusty young rheas; but my Indian guide, ingenious in expedients, took off his cotton shirt, tied a string about the bottom, forming a bag, and into this we thrust our birds.

Another incident regarding the rhea's ability to conceal itself is worth recording. It occurred in the Paraguayan Chaco as I was riding through tall grass that reached to my horse's belly. My Indian guide was only a few yards behind me. I was on the alert for any sign of game, my eyes searching every inch of ground. We had gone a dozen yards beyond a little clump of trees when the guide stopped me suddenly with a low *"Hist!"* As I turned my head he signaled silence with his finger on his lips, then motioned back of him. I had no idea what he had seen, but I knew it was something interesting.

Turning, I rode slowly back to within a short distance of the clump of trees among which I thought I had searched the ground so carefully. For a few seconds my eyes saw nothing but a gray boulder half hidden in the grass—in itself an unusual sight on that alluvial plain. Cautiously I approached a little nearer, and gradually the boulder resolved itself into the back of a rhea. The body of the bird with the neck stretched straight forward prone on the ground was absolutely motionless. Even when I approached to within a dozen feet not the slightest movement betrayed its presence, but at the click of my camera it sprang to its feet and dashed away across the plain, and there

were revealed thirty-seven eggs which it had tried so hard to conceal! The nest was only a slight hollow in the ground.

More interesting than the nest and eggs were its surroundings. For a radius of about ten feet the tall grass had been carefully cropped, a part of it being used as a nest lining. My Indian guide explained this habit of cropping the grass. In the dry season, when the grass is like tinder, fires often sweep over miles of the open country. By clearing the ground the rheas are often able to save their nests from destruction. My guide even insisted that the rhea frequently sticks to his nest while a fire sweeps around him. Personally, however, I should not like to stand sponsor for that statement.

During the laying season, rhea eggs are frequently found scattered here and there on the open plain. Such eggs are never incubated, but they add very much to the food supply of the Indians who wander over this country. The flesh is also eaten, both of adult and of young birds. I tried it on various occasions; and, while I believe that careful preparation would improve it, I do not recommend it. The plumes of the rhea are marketable everywhere throughout the region the bird inhabits. The Indians also use the skin, tanning it as they

A RHEA WITH FEATHERS RAISED, A CHARACTERISTIC ATTITUDE OF ALARM.
FEDAGOSA, MATTO GROSSO.

NATIVE METHOD OF DRYING JAGUAR SKINS. MATTO GROSSO.

do the skins of mammals and making it into bags and receptacles of all sorts.

Nearly always my days in the field were kaleidoscopic with the variety of animal life that I encountered. South American forests and jungles are often silent but never tenantless and it was not unusual for me to see as many as a hundred distinct species of birds and quadrupeds between dawn and sunset. Yet on just such a day I might hunt in vain for the one thing I was after.

During the long months I have spent on various expeditions I have attempted to tame all sorts of birds and other animals. But from my parrots I have probably gotten more real pleasure than from all my other pets. On one occasion I secured a nestful of young parrots whose feathers had not yet begun to grow. Curiously enough their nearly naked bodies were almost as large and certainly as heavy as those of the adult birds. Pin feathers were just beginning to crop out on their yellowish skin. They were anything but an attractive sight.

And what appetites they had! We fed them *cassava* moistened with milk, rolling it into great wads and shoving it down their gaping throats. In the beginning we thought three meals a day should suffice but the youngsters clamored for more and

we were obliged to increase their rations. Still they kept up their raucous cries. From morning until night the din never stopped, just one continuous clamor for food and more food. I am firmly convinced that there is not any other animal in the world that pound for pound can eat as much as a young parrot.

These young birds soon became very tame. But their tempers remained uncertain. None of them showed any inclination to talk or to imitate our voices until they were fully grown and had acquired nearly adult plumage. When they did begin to talk it was soon evident that, like children, they were not equally gifted. One was able to pick up a word or phrase after it had been repeated only a few times and finally became most proficient in both speaking and singing. Its special song was: "Froggy would a-wooing go, sword and pistol by his side."

We know, of course, that usually parrots do not understand what they are saying; yet they hit upon the appropriate use of words with astonishing frequency. I remember a native who always made himself a nuisance by his garrulousness. One day he had just ended a long monologue when my prize parrot ruffled up her plumage, spread her tail feath-

ers as a sign of annoyance and angrily shouted *"Callase!" "Callase!"* (Shut up). There was an embarrassed silence for a few moments. Then the man launched into another story of aimless detail. He was peremptorily stopped by the parrot shouting again and again even more loudly: *"Callase!" "Callase!"* This time the interruption was too much for the visitor; he rose and left in a huff. But the parrot never forgot; and whenever that native appeared it began to scream *"Callase!"* even before the poor man could open his mouth.

Two parrots lived on the roof ridge of my house at Caicara on the Orinoco River. Their greatest joy in life was to partake in the general excitement that always broke out on the arrival of the infrequent boats.

The location of the village made it possible to see an approaching boat while it was still a long distance down the river. The first lad who saw it at once set up a howl of *"El Vapor! El Vapor!"* (The steamer, the steamer!) The cry was quickly taken up by all the rest of the village youths and some of their elders as well, who at once ran shouting to the river front where the boat would presently moor.

The minute the parrots heard the uproar they,

too, would begin to scream *"El Vapor! El Vapor!"* The excitement was infectious and they would run back and forth from one end of the roof ridge to the other screaming at the tops of their voices. Their pronunciation was perfect.

I remember an amusing incident that occurred while staying at the country home of a government official in Costa Rica. The house was built after the Spanish fashion with a central court or patio. One morning while my friend and I were sitting on the second story veranda overlooking the central court the antics and the chatter of three of four parrots in the patio below us drew our attention. We were trying to make out what it was all about when the mistress of the house opened the door leading into the patio and started across. At her appearance the parrots began screaming in perfectly good Spanish *"Picara, Picara."* The lady flashed an embarrassed look in our direction and fled to the inner hall.

"No wonder she hurried out of sight," laughingly observed my companion. "I suppose you know that *Picara* means 'roguish.' "

Of the various species of South American monkeys that I have kept for amusement or study, I think the Spider monkeys exhibited greatest intel-

ligence. The name "Spider Monkey" was probably given the animal owing to the length and slenderness of its body and limbs and the long prehensile tail which functions like an efficient hand. One that I kept in my house at San José, Costa Rica, was an affectionate creature, easily taught, and he became much attached to me.

In Costa Rica earthquakes were so common an occurrence that one became more or less accustomed to them. Even animals seemed not to mind them. But my Spider monkey always rushed to me the moment he felt the slightest tremor of the ground, whimpering and crying like a frightened child. If I showed no excitement he quieted down and appeared entirely reassured. One night in May, 1890, there came a violent shock. The windows and doors rattled and my bed rocked from side to side. I have gone through many earthquakes with only a feeling of uneasiness but on this occasion, for some reason, I was thoroughly frightened. I lay in my bed with a sickening feeling of dread. The monkey, who slept in the courtyard outside my room, seemed to sense my alarm. He sprang through the window uttering heartrending cries of terror and clung to me in a frenzy of fear.

* * *

There is an erroneous but popular belief that travel and exploration work in the tropics, and I refer especially to the American tropics where I have had the widest experience, is fraught with a constant and imminent danger from wild animals, or from wilder men, be they civilized, semi-civilized or the indigenous Indians that have retained their tribal customs unchanged. I have frequently been asked: "But were you not in constant danger?" And in recent years since expeditioning has become a favorite sport with women the question has been asked more often.

Mention of the fact reminds me of the first conference held with a member of my last expedition to Brazil when I was asked: "Aren't there a great many dangerous snakes where we are going?" My reply was: "There are doubtless many snakes in the region where we are going, some venomous, others harmless, but I doubt very much if you see even one." Later my questioner tramped with me every day for two months, followed along forest trails, pushed her way through dense thickets, waded through marshes, rode and tramped over the grassy plains, and she saw just *one* snake other than

PRUDENCIO, MY BORRO INDIAN GUIDE, WHOSE PACK OF MONGREL HOUNDS TREED THE JAGUAR.

NEST AND EGGS OF RHEA.

those brought into camp by the herpetologist! He was looking for snakes.

In all my experience in hunting I have been attacked only once by a wild animal; and then the assault was without provocation, and from the most unlooked for quarter.

The incident occurred on the Orinoco near Ciudad Bolivar. I had left camp early in the morning. My chief interest at the time was the collecting of birds; but as I carried a three-barrelled gun (a 16-gauge double-barrelled shotgun with a 30-30 rifle barrel below), in one of the shot barrels of which I inserted an auxiliary for a .32-calibre shot cartridge, I was prepared for any sort of game. I was searching the thickets and the branches that arched over my path. I had seen little animal life, although from time to time I heard the sound of scurrying feet, a rustling of the bushes and once or twice a crashing of dead branches when some larger animal had gotten my scent.

About midday I sat down to rest in a shady dell, heavy with the perfume of tropical blossoms and shaded by vines and thick-foliaged trees that put a green barrier between me and the hot sun. I was about to light my pipe when I sensed rather than heard a gentle movement in the bushes almost at

my elbow. Instinctively I picked up my gun and sprang to my feet, not because I feared an attack, for long years of familiarity with the wild life of the South American jungles had taught me that that was about the last thing likely to happen, but because the collector must be ready to take advantage of the unexpected.

The next instant I heard the queer snuffling that is characteristic of the *tamandua* or lesser ant-eater when angry. And a second later one of these curious creatures burst through the bushes directly in front of me. It stopped, stared at me, and then to my surprise, started toward me with unmistakable signs of anger. When only a few feet distant it reared up on its hind legs and began to strike out with its forefeet which, armed with long powerful claws, could inflict an ugly wound. As the *tamandua* advanced I parried the blows with my gun barrel and backed away. The creature followed, seemingly growing more furious with each ineffectual attempt to strike me. Finally, after backing away and escaping its blows a number of times, my patience was exhausted and, while I am deeply prejudiced against killing unnecessarily, I shot it.

Nature has fitted the *tamandua* for an arboreal life but even when amid the branches in its chosen

haunts it is slow and deliberate in its movements for the feet are not well adapted for grasping and were it not for the strong prehensile tail its climbing would be about as awkward as its movements on the ground. Often I have found them fast asleep curled up on a horizontal branch in the full glare of the midday sun. If disturbed they would move slowly out of reach.

I preserved the skin but threw the carcass away, its slightly musty odor making it unpalatable. On the other hand, the flesh of the giant ant-eater is sometimes used for food. When attacked by the lesser *tamandua* I have said that I was in no danger but there are many authentic records of attack and serious injury inflicted by the larger species. The giant ant-eater or ant bear as it is sometimes called which is very much larger, more powerful, and quicker in its movements, besides being distinctly terrestrial in its habits, has a somewhat lumbering, ungainly gait, but withal travels rapidly.

I remember coming upon a giant ant-eater on one occasion when hunting jaguars with a pack of dogs. The dogs immediately gave chase. The ant-eater attempted to escape by running but was no match in speed for the dogs. One of them, a powerful brute, had overtaken it and was snapping at its

hindlegs as it ran. The animal, realizing that it could not escape by running, stopped and prepared to defend itself. It faced the dog, reared up and, with the clawed front feet held wide apart, awaited the attack. The dog went straight for its throat. Instead of springing away, the ant-eater's long powerful arms encircled the dog's body, the great claws closing down as relentlessly as the jaws of a steel trap. The pair fell on their sides, locked together. The dog fought violently to free himself, and did his best to bite; but he might as easily have bitten into a piece of sheet metal as the ant-eater's tough hide. On the part of the ant-eater there was no apparent effort in the fight. He just held on and squeezed. His grip never relaxed but tightened slowly, inexorably, the great claws pressing deeper and deeper. It was only a matter of minutes until the dog's struggles ceased altogether. The fight was over before we could intervene. The dog's ribs had been crushed as one would crush an eggshell.

As ant-eaters are entirely without teeth I had long thought, and it is a popular belief, that they feed exclusively on ants and termites. But my Indian hunters repeatedly told me that they also destroy many eggs and the young of ground breeding species of birds. The bodies of the young birds

TAMANDUA, ANT-EATER. ON THE OFFENSIVE.

THE GIANT ANT EATER DOES CLIMB TREES.

are crushed. Their juices and the liquid contents of broken eggs are lapped or sucked up.

I have stated that the giant ant-eater is terrestrial and, until a recent expedition, I had believed that it never left the ground. But I have a photograph of one clinging to a tree trunk fully twenty feet from the ground, where it had climbed to escape pursuit of the pack of hounds with which we were hunting.

Treachery among the cats is proverbial and the ocelot is no exception to that rule; indeed, there is probably no more sinister creature, certainly nothing more dangerous to the small forms of jungle wild life of South America, than this stealthy prowler that seems to be active at all hours of both the day and the night.

One day in the early winter of 1916 I was hunting along the Paraguay River in Brazil when I encountered an ocelot under unusual circumstances. I was moving slowly and carefully, making as little noise as possible as I followed a narrow winding path that led through dense jungle some distance back from the river. There was blue sky and bright sunshine overhead but the vegetation about me was so dense that I was enveloped in a sort of twilight. At every slight rustling in the solid green walls on either side of me I would stop and listen. Not

only was I in ocelot country but in a locality in which jaguar and puma abounded, not to mention big and venomous snakes.

It was a day of uncanny silence in the forest and I would often pause to peer into the thickets on either side of the trail. During one of my pauses the silence was suddenly broken by the strident cries of a troupe of bluejays. Nothing was in sight; but, while I waited, the clamor of their angry cries grew louder as they approached. It meant that some animal was near at hand. This unseen creature might be any of those that prey upon the weaker animals of the forest.

I had not waited for long when the bluejay mob appeared, still keeping up their noisy demonstration. They were low down, flitting from one branch to another, not over fifteen feet from the ground; so I knew their anger must be directed at something on or near the ground. As they neared the trail I crouched lower, hoping to catch a glimpse of the marauder.

After watching intently for some minutes I caught sight of a shadowy dappled yellow-and-black body gliding over the dead leaves and winding among the dark stems of the bushes. I was sure that it was a boa or an anaconda. Only a snake, I

thought, could move so stealthily and so noiselessly. Not the crackle of a dry twig nor the rustle of a leaf reached my ears. When first seen, the animal, whatever it was, was moving parallel to the path I was on. Suddenly, the creature changed its course, and I lost sight of it. However, the excited birds apprised me of the direction it had taken. It was coming straight toward my path.

A minute or two later, to my astonishment, an ocelot suddenly stepped into the trail not twenty feet from me! I shot it instantly. Its dappled brown and yellow sides and stealthy movements had completely fooled me. Had it gone in the opposite direction and disappeared I should probably have told a story of having seen a big snake!

My own experience in the forest and in the open is that color, or color pattern, is protective only when its owner remains motionless. Even so-called startling colors are rarely revealing if the animal is at rest.

That night for our dinner the cook served broth and fried cutlets, both of ocelot meat. The meat proved white and tender and as delicate in flavor as that of a young cockerel. I have eaten the flesh of all the species of cats found in South Amer-

ica and in every case found it palatable; but that of the ocelot is specially good.

I even found snake flesh edible. But it is tough and stringy and lacking in flavor. The meat of certain species of monkeys, on the other hand, is quite palatable. The Spider monkeys, the Howlers, and the Brazilian Baragudos are all good to eat and regarded as a great delicacy by the native tribes. The heads are considered the choicest tidbits.

My native cook was always surprising me with some new dish that, due to my white man's prejudice, I had hitherto thought quite unedible. I recall a native dish that I had at La Chonta on the Santa Rosa River, Ecuador. We had had a hard day's ride on the trail up along the Santa Rosa during which we had forded that stream no less than twenty times in our climb of several thousand feet into the mountains. I was tired and hungry but not until after reaching camp, was I aware that I myself had shot the animal that was to supply my dinner. As I had been riding past a little patch of sugar cane earlier in the day I noticed one of the stalks shaking violently. Since not a breath of wind was stirring I wondered what animal might be prowling about hidden from sight. I drew up my horse and turned to my mule driver for an explanation. But

his reply of *"Dios sabe"* (God knows) was not enlightening.

When I dismounted and prepared to investigate he warned: "Be careful, Señor."

"Why?" I asked, "snakes?"

He shrugged. "There are many reasons why the good God has made dangerous beasts in this country," he said and crossed himself.

If the good God had made dangerous beasts he had also imbued me with a dangerous curiosity. I climbed a muddy bank and pushed my way through tall grass and bushes. As I approached the field of cane, the movement suddenly ceased. Evidently sharp ears or delicate nostrils had warned their owner of my approach. I stopped and a moment later saw a long slender-bodied animal run quickly through the grass, then pause to listen. Its tail was straight out, back arched and head raised while it peered intently in my direction. It was a perfect picture of alarm and balanced action, equipped with an animal face of diabolical cunning.

What struck me was the size of the creature and at the same time its resemblance to the ordinary weasel. Then I realized that I was looking at the giant weasel, or *Tyra,* which in Ecuador is called

the *amingo*.. I shot and the animal dropped. Examining my prize, I found it to be about four feet long, the tail and body coal black. The head and neck from the shoulders forward were a dirty yellowish white. A more evil-looking visage than that of the *amingo* cannot be imagined. I know that if ever I want a cartoonist to lampoon someone I dislike I should certainly have him use the features of the *amingo* as a background.

I dragged the carcass out, and slung it across one of my pack animals; when I reached camp that evening the cook instantly recognized it, and said:

"It's very good to eat, Señor!"

After my men had skinned it I was, therefore, not surprised when he claimed the carcass. First he parboiled it, then cut off small pieces which he fried in bacon fat. Contrary to my expectations I found it both tender and well flavored. Up to that moment I thought I had eaten everything that wore fur or feathers that was edible, but weasel was a new experience. I can now recommend it as a true Ecuadorean delicacy.

For years it had been my custom to examine the stomach contents of the animals I killed. To my astonishment I found that of the tyra filled with sugar cane! Here was a case for speculation. The

weasels and their relatives are classed as carnivorous. So why had this tyra varied his diet? An examination of the skull and teeth revealed that it was a very old animal. The teeth were much worn, the canines mere stubs. The pelage, on the other hand, indicated an animal in good health; but old age had probably made the pursuit, capture, and holding of his natural prey increasingly difficult, hence he had turned to sugar cane as a diet.

One of the duties and responsibilities of the naturalist-collector is the recording of daily observations. Science and theory as to animal habits, if they are to be of value, must be combined with an empirical knowledge of what the animal does when left to its own devices if confronted with changing conditions in its struggle for existence. The naturalist must ever be on the lookout for new habits and characteristics of the animals he is collecting.

Very early in my career, I learned it was unwise to make any positive statement as to what any animal would or would not do. They might do the most unlooked for things as when the little tamandua ant-eater made his unprovoked attack upon me. And again, as another example, had anyone asked me if the peccary were aquatic, I should certainly have answered in the negative, but on one occasion

I saw them voluntarily take to the water. I was working along the Alto Paraguay River in the *Pantanal* country of Matto Grosso, ascending the stream in a small launch, idly watching the shoreline.

A considerable distance ahead along the shore I saw a couple of animals enter the water. I seized my field glasses to identify them. Presently I was able to make out two heads bobbing up and down side by side. As the river was over a mile wide at that point I was curious to know what land animals had the courage to breast its strong current. By changing my course, I ranged up alongside the pair. To my astonishment, I saw that they were peccaries. In all my hunting experience I had never before seen these animals take to the water.

I had a most unusual experience when I shot a Howling monkey on my first collecting trip to Central America, on the Pacific Coast of Costa Rica. I was staying at the hacienda of Don Bernardo Soto, one-time president of that country. He was an hospitable host and one who took a sincere and intelligent interest in the work being done by me and my companions. "I am interested in more than just the animals you collect," he observed one day. "I mean more than just their size, color and habits.

I think of them in terms of the universe and wonder what part all animal life plays in the great scheme of things." President Soto's philosophy had a detached fatalism about it that lent a sort of charm to his whole personality.

My companion in the work of collecting was a young naturalist, a Costa Rican who was more poet than scientist. He was constantly calling my attention to the beauties of his very beautiful country.

"You see, Cherrie," he often said half-apologetically, "I could not be happy laboring as does the man who must sit eternally in an office cramped by the drab walls about him and hearing only the din of noisy streets." Whereupon he would throw out his hands and with uplifted eyes, would exclaim: "Here we have the blessed flowers, the green barriers of the forest and the sweet song of the thrush!"

But despite his romantic effusions he had a quick eye for the practical.

As we entered the forest glade where I shot my monkey we came upon a troupe of Howlers high up in the tree tops. At the sight of us they made off with amazing speed. The trees in which they were travelling were of immense size, spaced some-

what widely apart so that the branches did not always interlock. The monkeys made long swinging jumps, catching on to the branches by their hands and tails as they sprang from tree to tree. But one old male was very deliberate. He seemed to avoid a jump whenever he could. At one point he ran to the extreme tip of a branch from which, by reaching out his long arms, he was able to grasp a branch of the next tree. Just as he was executing this maneuver I pulled the trigger of my gun.

To my surprise the monkey did not fall. Neither did he complete the swing but remained poised in mid-air.

I saw that the creature's head hung motionless between the forelegs. His forefeet grasped the branches of the tree ahead of him, his long prehensile tail was tightly wound around the branch of the tree behind. His thirty-pound body swung in mid-air. *Rigor mortis* must have followed instantly after I shot. We waited expectantly for the body to fall, but at the end of a short time we wandered away. Several times during the afternoon we returned but the body still hung motionless. And for thirty hours it continued so to swing. Finally it dropped, but the tropical sun had done

its work, ruining the skin as a specimen and making it fit only for the vultures that quickly devoured it.

* * *

There is no game in South America comparable to the big game of Africa. But there is one animal that can provide a thrill for any sportsman: the jaguar.

Some years ago a friend of mine suggested a hunting trip in South America. He had hunted moose and caribou in the Maine woods and in Canada and had gone after grizzly on the Kodiak Peninsula of Alaska. He had hunted tiger in India, lions in Africa and bighorn in the Rockies. His ambition was now to try his hand and marksmanship in South America.

"What are my chances to get a jaguar?" he asked.

I told him that he might not so much as see a jaguar, much less get a shot at one. I knew regions where they abounded. But knowing where game has been and where it is likely to be are two widely different things. The jaguar is rarely seen moving about by day. His hunting is carried on chiefly by night and may extend over a very wide range of country, depending on the location and

on water conditions which are controlled by the rains. One seen in a certain locality today may be miles away twenty-four hours later. About the only way to hunt them successfully is with a pack of well-trained dogs.

All my stories of the difficulties and uncertainties of jaguar hunting did not seem to cool the ardor of my friend who insisted that he would at least like to have a try. We discussed plans and localities for several days. Finally I concluded that our best chance of success lay in the vast open *campo* country of Matto Grosso, along the Paraguay River in Central Brazil.

Ten days after our first conference we boarded a steamer bound for Rio de Janeiro. Our equipment for the expedition was neither bulky nor heavy and an enumeration of the items thereof would make only a short list. Our most important possession was a wall-tent that would afford us protection against both unpleasant weather conditions and insect pests. Its floor dimensions were eight feet by ten, with a seven foot ridge. It was fitted with a waterproof floor cloth sewn in and adjustable flaps at each end. Inside the flaps there were drop curtains of netting. These curtains were heavily weighted with shot along the bottom edge so that

anyone going in or out, on dropping the curtain behind him would automatically close the tent against mosquitoes and other insects. The tent poles, uprights and ridgepole were in sections; the former was made up of three pieces and the ridgepole of four pieces, so that they packed easily for transportation on mule back. Iron tent pins were carried. Thus equipped, the setting up or taking down of the tent was the work of but a few minutes.

Comfortable folding armchairs were also a part of our equipment. My many years' experience in camp life had taught me the value and comfort of an easy chair after a hard day in the saddle or on foot. We also had folding cots, and a gasoline lantern (the kind that lights with a match) which we found to be perfectly safe as well as a great convenience. I still believe this type of lantern is the best camp light one can take into the field. A folding table and a compact aluminum cooking outfit, canvas buckets, wash basins and towels completed our outfit. The country we were going to was too warm to require any but the lightest bedding.

Our food supply when we left the little steamer on the Paraguay River and started with our pack train

into the jaguar country consisted mostly of coffee, sugar, rice, beans and crude tapioca.

The trip to Rio de Janeiro was like most journeys to the Southland—a delightful sail through tropic seas.

I believe all travellers, especially Americans, receive most courteous consideration at the hands of the customs officials of Brazil. The promptness with which our equipment was despatched was evidence of their courtesy. Thirty hours after our disembarkation in Rio we were on our way to Sao Paulo. Thence we continued westward through the heart of the coffee lands, the greatest coffee center of the world.

About fifteen years ago the Brazilian government completed a military or strategic railway from Sao Paulo westward to and across the river Parana and onward through the almost limitless grazing lands that stretch between that stream and the river Paraguay. The railroad terminates at Porto Esperanza.

On our journey westward we were obliged to stop every night at one of the little rest houses along the railroad, as, owing to the imperfect roadbed, the train did not run at night. Since that time a very great many changes and improvements have been

made. At practically every town there have been erected stations as up-to-date in every way as any that may be seen along the transcontinental lines of our own country. Many prosperous little towns have sprung up.

We reached the Porto Esperanza terminal on the Paraguay River four days after leaving Sao Paulo. The scene there was one of noisy confusion, hurry, and bustle; Indians, natives and half-breeds were all in a mad struggle to get their belongings transferred from the train to the little river steamer. Finally after much heated haggling and bargaining the almost inextricable mass of boxes, bundles and bags was got aboard. Sleeping quarters were of the most primitive sort. Late arrivals found themselves compelled to bunk wherever they could find room either above or below deck. If one had a hammock, and could find a place to swing it on deck it was infinitely more comfortable than the state-rooms which were nothing more than narrow, hot little cubicles equipped with double-tiered bunks. Sleep was almost impossible amid the chattering, noisy, native throng.

The night finally passed; and with the first gray streaks of dawn, while the hush of darkness still held, I saw once more the broad waters of the Para-

quay bordered by the interminable marshes which stretch away to the horizon's edge. Against the gray sky dead trees held aloft their gaunt white branches as lookout stations for bird sentinels of the night. As the sun's first rosy shafts of light pierced the dense thickets along the river shore there came the strident calls of many marsh birds. The sun came up burning hot and the scorching day had begun.

We were due at Corumba in the early morning; but it was noon before we dropped anchor off the busy waterfront. The sight of the little town high on a steep bluff rising from the river's edge was a welcome one. It required only a short time to transfer our equipment by skiff from the river steamer to the shore where it was carried by native porters up the steep, winding street that led to the little hotel.

On my arrival I was surprised to find my old friend, Jack Ramsey, manager of "Descalvados," a large well-known cattle ranch on the upper Paraguay River. It took him a few minutes to believe the evidence of his eyes; then he exclaimed: "For God's sake, *Cherrie*." Next he clapped his hands as a signal for the native porter who was given an order for two large glasses of good cheer. Greetings having been exchanged, I told Ramsey what it

HIDES DRYING AT DESCALVADOS. THEY ARE FLESHED BY THE BLACK VULTURES.

SUN-DRIED MEAT AS PREPARED AT DESCALVADOS.

was that had again brought me into his part of the world.

He immediately suggested that we go with him to "Descalvados," saying there was a little freight steamer that would leave shortly for the upper reaches of the Paraguay. We accepted his invitation with alacrity and hastened to purchase our supplementary supplies for the river journey and for our hunting trip into the interior.

Early Christmas morning we boarded the little steamer which was to carry us up river. We found her with steam up and the Captain fuming at our delay.

After three days of slow progress we reached a narrow part of the Paraguay where its width does not exceed one hundred and fifty feet, but where the depth is great and the current very swift. To the westward there was a low range of rocky hills; while to the east, beyond the fringe of trees bordering the river as far as the eye could reach, stretched the interminable *pantanales* or swampy grass lands. On the river itself and in the fringe of trees bordering the stream were congregated countless thousands of cormorants, snake birds, and other water fowl. The cormorants crowded together only on certain trees. Why one tree, or one

group of trees, should be selected in preference to others is a bit of bird philosophy that I have never mastered. The trees frequented were white with lime; many were bare, gaunt, and leafless.

Crested screamers were common, but not in such surprising numbers as the cormorants. They stood like sentinels on the vine-covered clumps of bushes and low trees, calling their weird notes of warning or alarm. The screamer is frequently found in the houses of the Indians and half-breed natives in a state of semi-domestication. It is highly esteemed for its destruction of noxious vermin such as centipedes, scorpions and tarantulas. Cats, dogs and other domestic animals have a very wholesome respect for the screamer. He is not quarrelsome, but thoroughly independent; his wings, armed with two long sharp spurs, can strike with lightning-like rapidity and terrific force and are the weapons with which he enforces respect.

Among the land birds one of the most common and characteristic of the region was a small parrakeet having a pointed, wedge-shaped tail, green head and back, and wing quills edged with blue. A gray throat and yellowish-green belly are the color markings of a bird whose nest-building habits are unique among the parrots. The colony nests of

these birds were conspicuous objects, roughly resembling a bundle of hay, caught amid the branches of some of the larger trees. Occasionally there were two or three in the same tree. These nests are occupied year after year and enlarged to provide accommodation for the ever-growing colony which sometimes numbers as many as fifty families. Photographs taken by me several years previously and compared with recent ones prove conclusively that the nests are identical!

Here and there were clusters of the long purse-shaped nests of the brilliant yellow and black caciques—giant cousins of our orioles—who are quite as gregarious as are the community-nest-building parrakeets. Their yard-long nests often swing from the tips of the smaller branches of the same trees in which nest the parrakeets.

Howler monkeys scurried about or sat stolidly in the narrow fringe of trees that bordered the river. Families of from six to eight could be seen moving through the branches, an old black male leading, deliberate and unhurried, followed by the orange colored females and the young, all grim and silent. Life seems at all times a serious matter for the Howlers. Even the young never sport about as do other young monkeys.

Our four days' journey upstream terminated when we drew alongside the little pier at "Descalvados." A cowboy was dispatched at once in search of my old Indian guide, who had a pack of dogs trained for jaguar hunting. Horse wranglers, ox drivers, a cook, and general camp helpers, together with the necessary carts, oxen and horses were all available at the ranch. We made ready at once to start for the interior.

I had arranged where our camp should be made for the night, and we rode on ahead with the hope that we might bag some game for our supper. We had not left the pack train far behind us when there strolled directly into the trail a fine white-tailed deer —the Brazilian representative of our Virginia deer —with a splendid pair of antlers. While still out of range he stood broadside toward us for a fraction of a second, then bounded off. An hour later amid the waving tops of the reeds and rushes bordering a marsh I picked out with my field glasses the tips of the spreading antlers carried by a black-tailed swamp deer which was lying down for its mid-afternoon rest. We advanced to within two hundred yards before the animal sprang to its feet revealing a magnificent head. At a bound it was off but a lucky shot stopped it.

We reached our first camp site a little before sundown. It lay in a region known to the cowboys as "Tamandua" (the lesser ant-eater) on the edge of what in the rainy season is a great marsh. It was then the end of the dry season and only a very little water was to be found. One of the horse wranglers had ridden ahead of us to see if there were sufficient for our camp needs. Having assured himself regarding the water he thought to improve the camp site by firing the dry grass and dead reeds at the edge of the marsh. While prairie fires at times spread and travel with almost incredible rapidity, there is ordinarily little real danger from them. In our own case, however, our pack train was compelled to come through a line of fire to reach the camp which we built amid the still smoking ashes. As it was already an extremely hot evening the smoke and heat from the burned-over ground added to everyone's discomfort.

Before leaving camp the following morning we decided on the location for that night's camp which would be near the center of the jaguar country. That day we hunted steadily for nearly eight hours, constantly searching for fresh jaguar "signs"; but there was little to encourage us until just before sundown. Suddenly my Indian guide became much

excited by the discovery of what he thought to be fresh tracks. Springing from his saddle, he scanned the ground closely.

Following his example, I peered at the soft earth which was marked with tracks as big as a man's hand. But as it was late we thought it best to make for camp and not take up the trail that evening. Although low hanging, leaden-gray clouds enshrouded the landscape as we rode from camp the next morning our ardor was undampened. However, after nine hours in the saddle we returned to camp tired and disappointed in our search for jaguar. Our only luck for the day had come when my friend shot and bagged a spike-horn swamp deer. Signs of other game than jaguar were seen, such as fresh tracks of tapir and peccaries. Several times rhea fled at our approach while jabiru watched us warily from a distance.

Land tortoises, locally known as *"cagas,"* proved common in the neighborhood. As it was the Lenten season they were being much sought after. My horse wrangler assured me that, *not being meat,* they might safely be eaten! Several, weighing from ten to twenty pounds each, were carried into camp. Later I found our men cooking some of the *cagas* in native Brazilian fashion, which is exceedingly

cruel. The unfortunate creatures, without being killed, were laid on their backs on a pile of burning wood, the fagots of which were so arranged that the turtles were unable to touch anything by thrusting out their feet. In that position they were roasted alive. It was an exhibition of the lack of sensibility that is almost universal among the Indians and the lower type natives in the less settled parts of South America. I spoke of the cruelty of the thing but they seemed amazed and assured me that was the penalty the animal had to pay for being a *caga!* All our men insisted that turtle so prepared was much more palatable than if cooked in any other way. I overcame my scruples sufficiently to try a bit of the liver, which is considered the most delicate part, and found the flavor delicious.

Early on the third morning while the Southern Cross shone like a jewel in the sky and mist and darkness still held we rode westward across the grassy plain. The soft swish, swish, of our horses' feet through the wet grasses was the only sound in the deep hush that preceded the swift dawning of the tropical day. Fifteen minutes later the sun burst forth, the thickets teemed with life and again we began our eager search for jaguar tracks.

An hour after sunrise, while skirting along the

borders of a big swamp, we discovered what looked like really fresh tracks. But the dogs, much to our annoyance, showed little enthusiasm. They sniffed disdainfully, gave a few half-hearted yelps, followed the trail with noses in the air for a few yards, and then lost all interest.

Back we went to our starting point. There we picked up a well-marked game trail that led around the outer edge of a considerable forested area. Suddenly the dogs became all animation. With noses in the air they ran ahead of our horses, stopped, turned this way and that as they nosed about excitedly, then plunged into the tall grass at one side of the trail. A moment later we heard the deep baying of the leader that was echoed by the whole pack. Urging our horses forward we followed the trail that wound and twisted in and out, back and forth across the shallow marshes, doubling back and crossing itself until the dogs grew confused.

Again the trail had grown "cold." Only one of the pack stuck to it. Suddenly he appeared to find a new lead. We were off again, close on the heels of the dogs. This time the trail led straight across the open plain to the foot of a giant dead tree. Here the dogs stopped as though once again they had lost the scent. My old Indian guide came up

and rode around the tree. His exclamation, "Here are fresh claw marks!" brought me quickly to his side. Then one of the dogs, following me, was suddenly galvanized into action. With a deep growl he sprang away through the tall grass. In another instant the entire pack, all baying loudly, were close on the heels of the leader.

Apparently that isolated tree was a lookout station where the jaguar could have a sun bath and at the same time mark the location of enemies or possible prey. From the foot of the tree the trail was a hot one; the dogs had no need to stop and nose the tracks. They were all in full cry running at top speed. Even the horses became infected with the general excitement. With ears laid back they raced along as if their very lives depended on it.

Suddenly through the tall grasses four or five hundred yards away we caught our first glimpse of the jaguar's spotted sides. Spurring our horses forward, we tore through the tall reeds, across swamps, threaded our way between the bushes and scattered clumps of trees for two or three miles until the hard-pressed jaguar sought refuge on one of the isolated areas of high ground, covered with tangled undergrowth and interspersed with tall trees, so characteristic of this region. Into the jun-

gle maze he raced with the dogs close behind. Our horses, now almost beyond control, carried us into such a labyrinth of vines and branches that we had much to do to keep our saddles.

We had no difficulty in locating our game. The beautiful beast with tawny coat ringed and spotted with shiny black was lying flat along one of the larger branches of a big tree, not more than twenty-five feet above the ground. He was panting from the long chase the dogs had given him. His sides were pulsing with quick hard breathing as he lay with one foreleg hanging loosely down, his head, with ears flattened, resting on the limb. Selecting a vantage point Devine fired a rifle ball at the beast's chest. With indomitable courage the jaguar rose to its feet and at a bound landed among the dogs, knocking them right and left. A moment later he was tearing headlong through the undergrowth, the dogs at his heels, straight towards where our horses were picketed. Few people have heard a horse scream. When the jaguar started in the direction of our horses they literally screamed with fear and lunged about fiercely. Several broke their hitchings and went tearing away into the forest!

Reaching a dense thicket, the jaguar turned at bay to face the dogs. But Devine's ball had found

a fatal spot: there were a few defiant growls and the beast dropped dead.

The thicket into which the jaguar had plunged swarmed with small reddish brown fire-ants in countless thousands that attacked us when we attempted to drag the body into the open. They thronged over our hands and arms, our necks and faces, even down our backs. They drove us almost frantic. Setting their jaws into the skin so they could cling the tighter, they would sting viciously. When we rubbed them off they either carried a tiny bit of our flesh with them; or quite as frequently, the body of the ant would be torn away but the head with jaws grimly set still hung on!

That day apparently marked the end of the dry season; for during the night we had a very heavy rain, followed the next day by frequent showers. Before leaving Corumba the rains had already set in on the upper Paraguay; as a consequence we knew the flooding of the marshes might begin at any time. We were therefore not entirely surprised, after continued rain during the next two days, to find ourselves compelled to do considerable wading. Soon great areas about us were flooded. However, for two more days we continued to hunt jaguar

but without success. Many tracks were found; but all were apparently "cold."

We nevertheless continued our hunt for other game as deer and wild pig were abundant. Strange as it may seem and despite our being in a region of vast marshes and swampland, in only one of our camps were we seriously troubled by mosquitoes. At camp "Jacare" even our native helpers complained; and without our well screened tent we should have been most uncomfortable. But despite this pest the camp proved most interesting. We pitched our tent at the edge of a grove of trees bordered on all sides by a great marshy plain. There was no other forest growth within miles of us. And we found our little island of trees a veritable bird preserve. Shortly after our arrival we shot a couple of guan and a Curassou, a fine large, turkey-like bird, both of which are delicious eating. From the edge of the marsh, only a dozen yards beyond our tent we added a splendid big Muscovy duck to our bag.

Conspicuous among the birds, other than game birds, in this island preserve was the red-eyed Ant-thrush, about the size of the American robin. Its upper parts are shiny black, the belly white. More noticeable than any color markings of the plum-

WE TENTED IN AN ISLAND PRESERVE.

CROSSING A DEEP SLOUGH IN THE PANTANAL COUNTRY.

age were the bird's brilliant scarlet eyes. Several little "day" owls perched in the branches directly above our tent; but in spite of their oft-repeated queer whistling calls, the reddish brown and gray of their plumage blended so perfectly into the lights and shadows of the lichen-covered branches that we searched long before we found them.

Here also we found two kinds of flycatchers, with harsh strident voices, conspicuous when their brilliant yellow breasts flamed in the sunshine. Jays, somewhat larger than the whiskey-jack of our Maine woods, flitted about high up in the trees, wary and vigilant. A single trogon, with back of iridescent green, gray throat and red breast, shone like a bright flower amid the shadows of the branches; and a Jacamar, brilliant in green, with long slender bill, and body trim and neat as that of a hummingbird, darted back and forth in pursuit of its insect prey. A troupe of screeching parrakeets circled around our camp while the drab sober-plumaged ovenbirds went noisily about their nest building.

After we had made camp the men fired the dead grass near the edge of our grove of trees and the fire roared away in every direction and continued burning throughout the night and the following day. Almost immediately after the fire had swept

bare the surrounding plain, and while it was still smoking, numbers of Cara-cara eagles came to prey on victims of the fire, chiefly small lizards and snakes.

That night we missed one of our best dogs. My Indian went back over the trail to look for it and found its body at a point near where we had ridden through a line of the prairie fire. It probably missed the open point in the ring of fire through which we passed and was burned to death.

The water that we were compelled to use in all our camps was surface water and mostly stagnant. It was greenish brown in color, much like the water one sometimes sees flowing from heaps of manure in a village barnyard, and the odor was much the same. My memory of the taste is less unpleasant in retrospect than it was in our coffee.

The next morning we were in the saddle with the first gray streaks of dawn. An hour later our dogs led us to the "kill" of a jaguar, the remains of a six-foot crocodile. Apparently the big cat had sprung onto the back of its victim. Its powerful jaws had crunched through the vertebræ of the crocodile's neck paralyzing the reptile. Then with savage wrenches of teeth and claws it had torn open the side of the chest, and lapped up the blood from

heart and lungs. We could usually locate jaguar "kills" by watching the vultures. When they began to congregate and circle over some spot it indicated the carcass of some animal or creature in distress.

Our dogs circled about the jaguar's kill for a few minutes, then started in full cry across the grassy plain in the direction of a big swamp. Soon we were urging our horses through water up to their knees. At this point the dogs lost the trail.

In our run through the swamp we saw fully a dozen of the big swamp deer, so close that they might easily have fallen to our bag; one doe jumped almost from under the feet of my horse. Two or three of the bucks that we saw had antlers still in the velvet, from which I concluded that the rutting season begins in January coincident with the beginning of the rainy season.

After losing the jaguar trail in the marsh we rode about in search of fresh tracks, but it was nearly mid-day before the dogs again gave voice. A short run in their wake brought us to a small grove of trees, with a thick undergrowth of low thorny palms. Here the dogs confined their attention to a dense thicket. The dark tangled mass of vegetation made it impossible for us to see any distance. We called the dogs to follow us in another direction

where we hoped to pick up another trail but they seemed loath to leave and after a short distance, they turned back towards the thicket. We were convinced there could be nothing there but thought the dogs might find another lead so we followed them. Straight to the edge of the thicket they went. This time we dismounted and crept about on hands and knees, still without being able to see anything in the twilight of the grove. But the dogs were insistent and finally in response to our urging charged into the thicket.

The charge was greeted with furious growls. The dogs came rushing out pell-mell followed by an angry jaguar. At sight of us the animal turned back to its retreat. The dogs, nothing daunted, dashed in after it but were again driven out as the jaguar charged after them.

By this time my companion was ready and fired a shot at the beast's chest but without stopping its charge. Two more shots were fired, but they were not necessary; the first had wounded it fatally and within ten feet of us it dropped dead. We dragged the great tawny creature out into the open and found it a beautiful specimen; a female fully grown and much larger than the one we had previously shot. One hind leg

had recently been severely bitten, either by another jaguar or, as seemed more likely to me, by an alligator. Her wound had probably made her sulky, causing her to charge the dogs. Had she remained quiet it is very probable that we should have ridden away without finding her. Her spotted sides had blended so perfectly into the shadows of the thicket, that she had been effectually concealed from our eyes.

The skin was carefully removed and, together with the skull, carried back to camp. A preservative was applied and the skin rolled up to cure.

The heavy rains that had already begun continued. Great areas were being flooded and the difficulties of our return journey increasing. Indeed, our start on the following morning was none too soon. For hours at a time we waded, the horses occasionally all but swimming. At one place where we were obliged to cross a deep slough our ox carts were stopped while we built a raised platform of poles laid across the sides of the cart body, high above the tops of the six-foot wheels. Onto this platform was piled our equipment, thus keeping it dry.

We still hoped to get in another day's hunting, but owing to the rapid flooding of the country we were not able to do any effective tracking. Trails

were quickly lost in the flooded area. Our last camp on our homeward trek had at one time been a cow-camp and there still remained parts of the corral and the old ranch house. It occupied the center of a raised area of ground that was completely surrounded by water in which there was a luxuriant growth of cattail-like reeds and water hyacinths. The absence of annoying insects and the presence of clear, clean water made a very pleasant contrast to the camps we had had. In addition to the good water we found another attraction. The reeds sheltered great flocks of Muscovy ducks which afforded good shooting. The next morning we reached Descalvados after two weeks in the field.

Now that our hunting trip was over we were ready and anxious to start on the return journey to Corumba. So news that the boat had been detained farther up the river was disquieting. Loss of a day or two might cause us to miss our connections on the trip back to Rio; and, worse than all, we might miss the steamer to New York!

Only a very little time was required to pack our belongings for the return trip; then we waited with all the patience that we could command, hoping against all probabilities, that the steamer might

reach us on schedule time. But two days dragged by and our patience was exhausted—what with dogs, pigs, chickens, pigeons, goats, pet raccoons and children, there was little chance of peace and quiet. The hunting of jaguars seemed a much less hectic game than life in the ranch headquarters at Descalvados.

When the boat did not appear I determined to go down the river as far as Amolar, just below the mouth of the River Cuyaba where the chances were that we might get a boat coming down that stream. So off we went in the decrepit old launch that did duty in transporting firewood to the ranch headquarters. Fire was started under the boiler of the *Juanita,* as she was called, and our belongings were placed on board by the nondescript crew, none of whom were either sailors or pilots. At mid-day we cast off and drifted out into the current while the whitewashed walls of Descalvados took on the picturesque charm that distance lends. As there was a wood station a short distance down the river no fuel was taken from the ranch beyond the amount necessary to get up steam. Little did we realize what absurd adventures the journey held in store for us.

The *Juanita* was cranky and would not answer to

her rudder. Three times before we reached the firewood station we had bumped into the trees and bushes that lined the shore and considerably damaged our "upper works." Twice the rudder chain broke leaving us drifting, helpless, at the mercy of the current. After four or five hours' work we got things patched up as well as we could and pushed ahead once more. An hour later the rudder chain parted again and we drove full speed in among the reeds and tall marsh grasses that bordered the main channel of the river. Despite drizzling rain and darkness, the splicing of the chain, with the aid of bits of vine and string, was finally accomplished, after which there followed a hard struggle to free the launch from the tangled reeds and grasses.

When morning came I felt considerable relief. There would now be less danger of running into snags and other obstructions in the river. Sunrise found us at Conshebon, another fuel station and the headquarters of a large cattle ranch. There we took on board the necessary fuel. We also got some baling wire to help us repair any future breaks in our rudder chain, a precaution that proved very necessary.

We now passed down through the narrowest sections of the river where we had noted water fowl

A WHITE PELICAN OF THE PACIFIC COAST.

COATI, OR BRAZILIAN RACOONS.

BOYS WILL BE BOYS.

BOAT-BILLED HERONS.

so abundant on the upstream journey. We found the cormorants still in possession. Several of the rare finfoots were also observed, a species that I had not previously seen on the Paraguay. It has a superficial resemblance to the grebe and is quick and erratic in its movements, diving and swimming beneath the surface of the water. It is said to carry the young at times of danger beneath the wings; but I have not been able to verify this extraordinary performance.

The following morning before daylight we made fast at Amolar and as soon as the inhabitants were astir we made inquiries about the movements of the river boats. The sum of the information that we got was that the *Sul Americano* was at Cuyaba and that she might make her downstream journey today or tomorrow which I knew meant that she might arrive within a day or within a week. So I decided to continue the journey in the *Juanita* down to Corumba. But there's many a well-laid scheme that fails, and my plan was shattered when the *Juanita's* crew mutinied! No question of food, labor or wages was involved in that mutiny. It was a question of ethics only! Our crew's modesty would not permit them to appear on the streets of Corumba in their decidedly abbreviated costumes. Argument availed

not; they would not proceed. I therefore despatched the *Juanita* on her way back to Descalvados, after our equipment had been set on shore under the trees.

As the *Sul Americano* might or might not stop at Amola we took turns watching for her arrival. We flipped a coin for the first watch. I won. So Devine sat in a camp chair like a modern "Klansman," with a mosquito net over his head and his eyes fixed steadily upstream. Meanwhile I arranged a mosquito net over my cot supported by a couple of oars at the head end. An hour or two later I was rudely awakened from a sound sleep, by one of the oars falling on my face as my makeshift canopy was blown down. Muttering things that would not look well in print, I extricated myself from the mess and began to rearrange my bed. Suddenly Devine startled me with the cry: "There's a light moving away beyond the marsh!"

I looked up and one glance told me that it was the steamer threading her way down the narrow channel. As she was already late and I knew she would not stop for any ordinary signal, I immediately began gathering together our impedimenta and told Devine to take his rifle and as soon as she rounded the bend into the open water in front of our camp to fire a couple of shots. He fired the shots but

there was no sign nor sound on board that she meant to heed the signal. So I picked up my own gun and, when she was nearly abreast of us, I dropped three shots in quick succession directly in front of her bow. I had been through enough revolutions in South America to know that if anything could stop her, that would. No pilot ever takes a chance of having the next shots crash through the pilot house. Instantly I heard the engine bell ringing and immediately the prow of the boat began to swing shoreward.

Presently a voice shouted: "What's wanted?"

"Passengers for Corumba," I replied.

By that time the steamer was within a couple of boat-lengths of the shore and the captain was shouting to us to make haste as he was in a hurry. I replied that he wasn't in any more of a hurry than we were. The speed with which we got our outfit aboard was little short of miraculous. Ready hands assisted us, and neither Devine nor I had any regrets at leaving Amolar.

Once we were on deck not a moment was lost; the signal was given—full speed ahead. The captain of the boat assured us that we should still be able to make connection at Corumba with the railroad boat. But we were delayed by engine trouble,

and when the town finally hove in sight it was long after the boat had departed. However, we finally made arrangements with the captain of a barge carrying a cargo of sun-dried salt beef to Asuncion to take us with him and drop us off at Porto Esperanzo.

Our trip from then on down the river was uncomfortable, but without incident. We finally disembarked and with sighs of relief, boarded the train that took us on to Sao Paulo and thence to Rio de Janeiro.

Despite our setbacks and disappointments, the expedition had been a success. Devine had shot his jaguar and we had emerged from the wilderness without serious accident.

I have related the story of this trip in some detail, because it is characteristic of the average expedition into the game country of the interior of South America. There were few real hardships, and as for danger there was barely enough to banish monotony. And yet real danger and hardships may occur if one lacks the knowledge and experience of how to travel. The time is coming when vast areas of that great continent will be opened to the sportsman. Certainly there are few places in the world so full of interest to the hunter-naturalist.

PART FIVE

MY FELLOW MEN

PERHAPS the chief characteristic that distinguishes maturity from youth is the acquired experience that gives it the ability to appreciate other people. Much knowledge of life is necessary to form a just estimate of one's fellow men. To say that this man is good and that one bad, this one sane and that one unbalanced, is of little importance unless linked with a consideration of the determining influences in his life.

When we speak of a *person* what do we mean? So many elements go to make up an individual: age, sex, size, clothes, character, temperament, knowledge, experience. Any one of these may on impulse be chosen, consciously or unconsciously, as the basis on which to judge the possessor.

How many of us have a sympathetic comprehension for the problems in the lives of others? How many of us consider our fellow men without bias?

For example, I would catalogue myself, with some vanity no doubt, as a respectable citizen of reasonable education and standing. And yet there have been times when in the eyes of my fellow men I seemed only a bit of human flotsam.

I remember a day in 1925 when Suydam Cutting and I, after a stormy journey on the Black Sea from Batum, arrived at Constantinople. We were returning from an expedition through parts of India, across the Himalayas and into Chinese and Russian Turkestan where, with Kermit and Theodore Roosevelt, Jr., *Ovis poloi* (Marco Polo's sheep) was the prize we sought. The fact that we still wore the same clothing in which we had left Kashgar, the most western town in Chinese Turkestan, nearly six weeks before, did not mar our pleasure in the brilliant sunshine that flooded the shores of the Bosphorus. We were in a very happy frame of mind when a Turkish officer in uniform, spick-and-span, came aboard the steamer to examine her passengers' passports.

Just why ours were thrust aside until all the other passengers had been dismissed we did not know; but when the officer finally took up our passports his expression was plainly one of "What a dirty pair of rascals! I wonder what they're up to."

With an eagle eye he scanned our credentials for some sign of irregularity but without success. Our papers were in order. Finally he drew himself up and gazed down at us plainly with disgust. He looked Suydam over and then turned to me. If Cutting's looks were not prepossessing, certainly mine were not such as to inspire confidence. Our journey through the Black Sea had been a rough one. One morning, four or five days before reaching Constantinople I was on deck when the steamer gave a sudden lurch. I slipped and was thrown across the deck striking my head against an iron stanchion. I received an ugly bruise and cut on the forehead. During the following days the wound had become infected. The Turkish officer, as he scrutinized me, saw an unkempt man with clothing that was dirty and ragged, and a much disfigured face. His dignified mien and military bearing made me more and more conscious of my shabbiness.

Giving us a last searching look he pronounced the one word "Undesirables!" And then: "You will not be allowed to leave the ship."

There was no opportunity to show him that we were other than what our clothes and our general appearance might indicate; or that we had any edu-

cation, sense or decency. Not a word was asked as to why we happened to be dirty or ill-kempt. To that officer we were just another brand of refugee.

"May we send a letter?" we asked.

The request was somewhat grudgingly granted, but only with the strictest understanding that we should not attempt any deception. We quickly wrote a letter, or rather a wild appeal, to Admiral Bristol, U. S. Navy, who at the time was High Commissioner at Constantinople.

In the course of a few hours word came from the embassy and we were given permission to go ashore. During our detention we chatted with two or three Turkish police officers. One we found spoke a little French, another a little German and a third a few words of English. When we were finally permitted to land one of these police officers on the dock approached Cutting and whispered to him the name of a little hotel where he assured us we could get board and room for about a lira and a quarter (35c.) a day. I am perfectly sure that he thought even that amount would strain our finances.

We thanked the man because his suggestion was an act of real kindness. Other incidents relative to our arrival in Constantinople are amusing in

SUYDAM CUTTING, COLONEL ROOSEVELT AND GEORGE K. CHERRIE IN TURKESTAN.

GEORGE K. CHERRIE.

retrospect but at the time, to us, they were anything but pleasant. When we reached the street we had not formed any definite plan as to where we would direct our steps. But glancing up on the opposite side there was a sign that caught our eyes. "Near East Relief" it read. We weren't sure that we were in the "Near East" class; but we did feel that we needed some sort of relief. So we climbed four flights of stairs to the office of the official in charge. Some weeks later after I had left the American Hospital where I had gone for treatment of the infection contracted on board the steamer I learned what his impression of us had been as we entered his office. The office was at the end of a long corridor and the door was open so that he saw us approaching. He said: "As I looked you over I put my hand into my pocket and drew out two dollars. I meant to give each of you a dollar and tell you that was all that we could do. Indeed, I thought, judging by your appearance, that a dollar ought to mean a great deal to you." But differing from our treatment by the Turkish officer, here we were given a chance to tell who we were and why we were dirty and ragged.

From the Near East Relief office we went to the Tokatlian, Constantinople's most modern hotel.

There again we came within an ace of being classed with the "undesirables!" From the hotel we visited the Embassy where we were able to better our finances; thence to a store where we left our rags behind us.

Long ago I discovered that clothes do not make the man—nor even the woman. If one is going to get pleasure out of human associations one must pierce the outer husk that has no more bearing on a man's heart than a cocoon does on the butterfly. I have seen love, sympathy, generosity, courage and other virtues among the lowest and most ignorant savages; and I have seen the antitheses of them all among men and women who boasted of their education and the culture of civilization.

In a word, the traveller who is going to get the most out of his wanderings is one who has a philosophic and somewhat discerning eye to turn upon the human beings who cross his path. He may often be disappointed; he may at times lose some faith in human nature, but in the long run he will be entertained, amused and even confounded by those about him.

A diversity of character and temperament is brought out in adventure. One then discerns as it were, the invisible. For character is like the at-

mosphere: at rest it is unseen, but in action—swift action, as moves the hurricane—character becomes as dramatic in its violence as do the elements.

Of course the most interesting encounters with people are those which hold the elements of drama.

I remember one autumn many years ago when my finances were at low ebb, I took lodgings in New York in a not too fashionable quarter of the city. Probably there has never been a moment in my life when a visitor was more unexpected. I was preparing to retire for the night when my landlady knocked importunately at my door and in a voice somewhat strained announced that a man wished to see me.

In the hall I found Señor ———— whom I had known as military attaché at his nation's embassy in Washington.

"Come in," I stammered in surprise. "What can I do for you?"

When he entered, by the light of my lamp, I saw that he was profoundly disturbed. Though the night was cool, perspiration was streaming from his face. His clothing was in a state of disarray, as if he had met with some night brawler in the street. His hand was clammy and shook when I took it in mine.

Before I could offer him a seat he threw himself into a chair and buried his face in his hands.

"A moment—," he said apologetically, between quick breaths as if he had just finished running. His eyes moved apprehensively toward the door which stood ajar. I closed it and turned the key. If my visitor had a pursuer I wasn't going to permit a fight in my room if I could help it.

"Do you think I could stay here for a few days?" he asked, lowering his voice as if he were afraid some one might overhear him.

Thinking it was more tactful not to press him for an explanation I roused my landlady again and ascertained that there was an empty room next to mine which he might occupy. As he was a man of the highest standing I wondered why he should come to these drab surroundings.

My curiosity was gradually satisfied. "You may know that I have been staying with Señor ——," began my friend haltingly. He mentioned a name, known throughout Brazil, whose owner was the possessor of vast tracts of land from which he derived a princely income. Among other possessions he had a house in New York. With him lived his only child—a beautiful high-spirited daughter. To understand what followed it is only necessary to

add that the hot blood of his Spanish forbears made my friend an impetuous lover. These two had been alone in her father's house when something resembling a volcanic eruption of human passion resulted—at least that was what Señor ———'s picturesque language conveyed. Then at a critical moment her father returned! Finding them together he had flown into a towering rage and had whipped out a revolver but my friend was too quick for him. He was out of the door, down the stairs and in the street, hatless, coatless, before the irate parent could shoot.

I tried to say something sympathetic but Señor ———, sitting in deep dejection for a few minutes, suddenly threw up his hands in a gesture of despair, and cried: "What am I to do? Can you help me?" Between us we hit upon a plan. While he led a life of seclusion I, by patient waiting and watching, contrived to meet the girl. She told me that her father would kill her lover if he could find him, and begged me to keep him in hiding. Through me the lovers kept in touch until such time as Señor ——— and I were able to take passage for his return to South America.

Some months later I was gratified when the young lady wrote me that her father's resentment

had cooled down and that he had lost all lust for blood; I think indeed he had memories of an impetuous youth of his own. At any rate, the breech was healed and the lovers reunited.

To me, the important thing about that brief period of intimacy was the cementing of a friendship that was to change the whole course of my life and make South America the destination of many of my subsequent expeditions. Moreover, as I set out to illustrate I was more than a mere spectator in the unfolding of two peoples' lives.

I have long felt that my most illuminating glimpses of human nature have been among the indigenous peoples of South America who have little or none of the cultural repressions of civilization. Like children, their sincerity of emotion is easier to understand and interpret than the frequently complex behavior of an educated person. Education imposes a certain restraint, but beyond that point human impulses are the same in educated and ignorant alike.

I remember one evening on the Orinoco when a hunting party of Piaroa Indians drifted into my camp. All were men and several were desperately ill. They showed that complete dejection and helplessness which savage races display when afflicted

with disease whose ruthless onslaught they are helpless to combat.

I did what I could to alleviate their suffering. There was no doubt that their illness was largely due to lack of food. Exposure on their long journey had aggravated their weakened condition and malaria had helped to sap their strength. From my small kit I gave what medicines I could spare. My feeling was that even if the medicine were not the exact specific for their ailments the moral effect of using the white man's remedies would be good. I also directed my men to give them some of our provisions. The whole transaction was as matter of fact as possible. I bestowed my gifts and signified that I could not do more. During the time they remained there, one or two, by their expression, showed their gratitude. But no word of thanks passed their lips. Little did I dream at the moment that the help I gave them was ever to bear fruit.

To my surprise, the party lingered about my camp for several days. Those that were well enough occupied themselves with fishing and hunting. From time to time I visited their camp and occasionally sent them such provisions as we could spare. But I felt that, for some at least, better

Hunting Grounds were not far distant. Then one evening, as the sun dipped to the horizon, they disappeared like shadows into the forest without even a parting salutation.

Some months later, when far up the Orinoco, I was stricken with a violent attack of fever. I was physically exhausted and my resistance lowered. Having foolishly neglected some of the ordinary precautions against tropical fever, a violent attack of malaria followed. For several days with heavy doses of quinine I tried to check the course of the disease but all to no purpose. My fever continued unabated.

I then sent for my headman.

"I am ill," I told him, "and must go to the white man's village."

"It shall be done," he said.

Then began a race against time. My one hope lay in reaching some place where I could secure proper food and nursing. Swiftly and silently my men made ready to leave but their reluctance to move me showed me clearly that they believed I was near the End of the Trail. Night and day the monotonous swish of their paddles never ceased as they drove my canoe downstream.

One day, while still far from my destination we

stopped for a short rest at a lonely Indian settlement high up on the river bank. Our provisions were running short. It seemed a likely place to replenish them. While my men went to inquire what might be bought I was left in the bottom of the canoe in the shade of the thatched covering that they had built to protect me.

As I lay there weak and feverish I heard the voice of a woman asking: "Where is your *patron?*"

"In the boat," said my headman.

I heard the patter of bare feet approaching my canoe. A half-naked woman leaned over and stared long into my face. I was too ill to be annoyed at what seemed to be mere curiosity. Then her expression changed and she spoke to me in imperfect Spanish.

"*Patron,* did you have a camp far down the river when a hunting party stopped there?"

"I did," I said weakly.

"And they were men of my people?"

"They were Piaroas, I think. Weren't some of them ill?" I asked.

She nodded energetically. "One of them was my man! He told me how you gave him food and strong medicine. But, alas, he has gone where the shadows are dark."

For a moment she closed her eyes. Then I understood. And because I had been kind to her man she had me carried to her house where she nursed me with unfailing devotion. Freshly baked sweet cassava and chicken broth were prepared for me with infinite care. As the fever lessened and my strength gradually returned she tempted my appetite with monkey stew and other Indian delicacies.

For many days I lay weak and listless, content to rest, while that Indian woman nursed me with wonderful tenderness.

When I was well enough to leave I tried in every possible way to convey my gratitude. She received my thanks with dignity but all attempts to remunerate her were firmly refused. As our canoes floated into midstream she stood watching us until we rounded a bend in the river and disappeared. It was not until we made camp that night that we discovered that she had concealed in the bow of my canoe an abundance of fresh provisions.

I have had many curious adventures with semi-civilized half-educated natives of the outlying districts of South America. Repeated expeditions have made it possible for me to renew acquaintances from time to time. With some I became their only link with the outside world. To the

native I was a traveller of renown, a sort of modern Marco Polo who spent his years wandering to distant points of the earth and carrying a cargo of romance to and fro between isolated groups of my fellow men.

Their curiosity as to the habits and surroundings of people of whom they knew but vaguely can be understood only by one familiar with their isolation. Such isolation makes it well nigh impossible for them to grasp the significance of large communities. The distant villager is incapable of picturing a much larger group of human beings living together than that in his own tiny settlement. In a sense this makes for contentment. It removes any feeling of inferiority. They picture the rest of the world as one of jungles, great rivers, and vast seas; with here and there tiny pools of humanity no larger than their own. Thus it is that they look upon the stranger from afar as a traveller between villages. I came to know whole families, parents and children, pets and peons and draft animals. I grew fond of many; and the friendliness with which I was met showed their confidence and affection for me. Nowhere have I met with greater loyalty and disinterested helpfulness.

In 1902 while I was travelling in French Guiana,

descending the Approuague River in dugout canoes, I overtook a large party of natives; some of whom had their women with them. I bargained with them for their help through the rapids. This meant extra mouths to feed; but I was not unmindful of the help the women provided in cooking, gathering firewood and washing clothes.

In shooting one of the many rapids one of the canoes met with disaster, plunging over a low fall and capsizing in the swirling waters below. The stream was studded with sharp rocks which, combined with the rapid current, made it almost impossible for the swimmers to escape. However, the pilot's woman and two of the paddlers reached the shore. The pilot himself was drowned.

We stopped at once and search was made along the river in the hope that he might have managed to reach the shore. But he was never seen again.

As was to be expected, his woman abandoned herself to her grief. Seated on the ground, she cried loudly and rocked to and fro with gestures of wild despair. There in the broiling sunshine through the long afternoon, her hair pulled down about her face, her body swaying from side to side as though in some grotesque dance, she sat wailing and weeping. To my surprise none tried to com-

fort her, or even speak to her. It was as if all felt completely helpless to assuage her. They spoke in low tones among themselves but did not intrude upon her grief.

As the sun went down, a strange thing happened. Her lamentations gradually ceased. From the door of my tent I watched her curiously. I could still see her by the light of our camp fire when darkness fell about us. An hour or so later, after a period of complete silence and almost motionless repose, she rose slowly to her feet and walked to where one of my men stood apart. Silently he helped her swing her hammock close to his own. She had conformed to their custom; she had mourned the requisite time and honored the dead according to the rites of her people. Now she was free to take a new mate.

I have often been surprised by the courage and resource of the native women and I am reminded of one I met at the town of Alsalina, Ecuador, near the Peruvian frontier. We rode into the place late in the afternoon and inquired for an untenanted house that I might rent during my sojourn. I had long found this to be preferable to the local inns. It enabled me to set up housekeeping within an hour or so of arrival.

It was after nightfall before we had gotten comfortably settled in our new quarters. We had finished our evening meal when word was brought by a native boy that there was a message for me at the Post Office which was located in one of the native houses at the other end of the village.

Picking my way down a narrow winding street I arrived at my destination. My approach had evidently been noted for the door opened as I reached the threshold. But before I could enter the postmistress, an intelligent looking native woman, bent forward and glanced nervously up and down the street. Without saying a word she beckoned me to come in; then quickly closed the door behind me.

As I wondered what this mysterious summons might mean she whispered in low hurried words. "You are in danger. I also am in danger by having you come here, but, I do not mind if I can help you. Your landlord is an evil man. He murdered my brother." She paused and repeated the words again: "He is a dangerous man and will harm you!"

Again she opened the door, glanced up and down the street and ushered me out without another word.

Needless to say I was on my guard. I knew a

man who would commit murder would not hesitate to rob. Local feuds were not a new experience to me and I knew that it would take only a slight move on my part to direct suspicion toward me as siding with one faction or the other.

Some weeks later I finished my work in the neighborhood and prepared to move on to another town. The night before my departure the postmistress sent for me and again warned me. She told me that plans had been laid for robbing me as soon as I reached a lonely part of the trail.

"Don't follow the trail which you have planned to take," she said. In a few laconic words she told me of a little used trail that branched off just beyond the village limits from the one I had intended following. By taking the route she indicated I would gain so much distance on my enemies that it would be impossible for them to overtake me.

Something in the woman's face made me trust her implicitly. I accordingly took pains to announce the time of my departure and the route I would follow; but on the following morning I set out with my pack train some two hours earlier than the time I had announced. I found the side trail just where the postmistress had indicated and it proved to be a good one. My compass told me that

it led, almost as the crow flies, in the direction I wished to travel and in a few hours I reached the other side of a mountain range and the journey passed without incident.

Some weeks later I made the acquaintance of a man who had passed through the same village. "You are a clever man, Cherrie," he said. "At Alsalina there are some men who still wonder how you got out of town. Another traveller who left the village an hour after you did, was held up on the trail and not only robbed but murdered!"

* * *

In reciting the incidents that follow I do not want to give the impression that life for the traveller in Central or South America is or was always dangerous. It is not. The fact that many of the smaller governments were, in the past at least, politically unstable, has much to do with their reputation for continual turmoil today. Of course, too, there is really a good deal of excitement at times. However, it is now very unusual for the casual stranger to visit any part of Central or South America and not receive both hospitality and, in case of need, sympathetic aid upon his way.

My first impressions of Costa Rica, in the winter

of 1888, have always remained vivid in my memory. At that time the railway from Port Limon to San José had not yet been completed. It had penetrated only as far as Carillo at the foot of the mountains from which point there was only a winding road over which one rode, taking advantage of such lodgings along the way as might meet the traveller's convenience. Throughout Central America at that time revolutions came and went with mathematical regularity; and, although it seemed a long way in the background, the United States was still recovering from the Civil War and had no great desire to take part in troubles beyond her border. These circumstances, coupled with the fact that I knew very little Spanish and understood none at all, made me feel somewhat uneasy.

At Port Limon, when I arrived and later during my few hours stay at Jimenez, I found friendly Americans who could tell me where to go and what to do. But on the journey from Jimenez to San José I had to depend upon my own resources.

Possibly as a result of my intense ignorance of the language and customs of the country the horse I was able to hire for my journey was far from being a prize. Indeed, aside from the fact that it looked like a horse, I should say it was about as

near to a wooden model of the same animal as I can imagine. It had apparently no desire to do anything except stand in one place. At first my sensibilities prevented vigorous use of spur and whip, and the high-tension American language that I employed was wasted effort. Finally, seeing that words were of no avail and that mercy was a wasted virtue, I resorted to more strenuous measures. But despite all my efforts I failed to arouse the horse to action and only elicited a resentful surprise. At times, when I dealt him a particularly heavy blow, he flicked his tail in my direction. Otherwise my efforts were a complete failure. As a result I was soon deserted by other travellers who had started with me for San José and upon whom I had relied for assistance along the road.

As it was all new country to me, the scenery and novelty of my surroundings for a time sustained my discouraged spirits. Beautiful green hillsides and rolling valleys were visible from the winding road. At times my way led through depths of sun-sprinkled forest. The trees and the flowers were fully equal to the tales of tropical splendor of which I had read and dreamed for so many years.

In the early afternoon the sun suddenly disappeared behind black clouds. I realized that a tropical

storm was about to descend upon me. And as my previous discouragement and gloom were renewed I labored more than ever with the wretched nag on which I was mounted. Within an hour the clouds opened and a torrent of rain descended. My poncho was small protection against the downpour. I was soon drenched to the skin; and though the latitude was not far from that of the equator I felt chilled and miserable.

Hour after hour my horse plodded on. Occasionally he slipped on the winding muddy road. Meanwhile, I kept an eye out for some sign of habitation. I realized that since there was no chance of my reaching San José or any other town that night my only hope of avoiding a miserable night in the open was to find some house where I could get lodgings. The countryside seemed absolutely deserted.

Just as darkness closed about me I came upon a roadside *posada,* a small house that might afford food and shelter. Had it been a palace it could not have been more welcome. When I got inside I was once more gently reminded of my complete ignorance of the language. My equipment was to follow by pack train the next day and my saddle bags did not contain sufficient clothing to make a complete

change. Therefore it was necessary for me to get the mud off myself as much as possible and dry the garments that I wore. While the native proprietor stood before me with blinking eyes I went through a pantomime performance of undressing, drying clothes and washing. This didn't work either. Finally, in desperation, I motioned him to follow me and walked out into the kitchen. There I pointed to a pan of water, a piece of soap and a towel. I nodded towards a shirt he had been drying over the stove. Suddenly, with a gleam of intelligence in his eyes, he began to dart about and provide me with the things I wanted.

The "stove" consisted merely of an open fire made between rounded stones on a raised platform of earth. The smoke wound up through a hole in the roof. Cooking vessels of various sorts were placed about the fire, nearly all of them filled with some native soup or stew.

In this kitchen, while standing as close as I could get to the fire to dry my clothes, I received my first lesson in Spanish. A pig came trotting into the kitchen out of the rain and began nosing about among the pots and pans strewn about the floor. The cook seized a large iron spoon and, giving the pig a hard whack on its back, shouted: *"Chancho";*

whereat I gathered that this was the Spanish term for hog.

As I continued that and subsequent journeys during early days in Costa Rica I learned that a pig in the kitchen was only one of many things that might offend the sensibilities of a person who had not visited Spanish America before. It was not unusual to see cattle and other domestic animals butchered and skinned in the front yard. I remember at one place where I stopped a sheep was killed on the evening of my arrival. There was nothing unusual in that; but it was something of a shock to find the carcass suspended over the dining table!

Even when I had learned to speak the language and had mastered various dialects the difficulties of travel were not always easily overcome. Twenty-five years after the experience I described above, in 1915 to be exact, I was working near the River Miguelito, which forms a part of the eastern drainage system of the Amazon in Bolivia. I was approaching a little place called Roquefaldas with two companions, both as worn and tired as I. Since early morning we had been riding through drizzling rain, up and down narrow trails and winding our way across one of the roughest regions I have ever traversed. Just as dusk began to settle about us we

were cheered by the sight of a native ranchito. Beside the native house was another smaller shack. Surely in one of these I though we could find dry quarters for the night.

I rode to the door of the main building and knocked. When the owner greeted me I was somewhat taken aback to see over his shoulder that the room was completely filled with people. As the space was not over 15 feet square and the occupants thereof numbered over a dozen, my hope for a pleasant night began to fade. "We are crowded," was the not surprising answer the native gave me. Then ensued the usual argument. I insisted that we could not go on. Our horses were well-nigh spent. Darkness had come upon us and we were not familiar with the country.

I suggested that we should occupy the smaller house. In the dim light I could see that it was perched on the edge of a deep ravine; but it had a roof, which was the important factor. The owner shrugged and mumbled something that I did not understand. A woman, fat and frowsy, standing at his elbow, snickered. At the moment I did not catch the significance of her mirth. But when we found, after our conversation, that the shack was packed to capacity with pigs, I realized what must

DRIVING THE PIGS INTO THE RAIN WE SWUNG OUR HAMMOCKS BENEATH THE RAFTERS OF THE PIGSTY, AT THE LEFT.

ONE OF THE GATES OF CUZCO BUILT OF HEWN STONE FROM RAZED INCA STRUCTURES.

have been in their minds when I suggested that we occupy it.

The unfortunate pigs were just as anxious as we to keep out of the pouring rain; but my conscience left me untroubled when we drove them out into the storm. Luckily we did not have to sleep on the dirt floor. We swung our hammocks from the rafters. Finally, with a feeling of gratitude for the roof that sheltered us, we drowsed off despite the roar of the storm.

I had just reached the land of dreams when I was awakened by a rustling sound overhead. Having had some disagreeable experiences with nocturnal animals I struck a match to see what was prowling so close above us. There was a quick flutter of wings; by the flickering light I saw that the native family's entire collection of poultry roosted above us! Forthwith the protesting flock followed the pigs out into the storm.

The custom of sleeping in hammocks is an old one on the South American trail. It keeps one off the ground; is a protection against animals and reptiles and provides a comfort which the sailor centuries ago recognized. But it occasionally results in amusing adventures. I remember in 1913 while travelling through Colombia my hammock

enabled me temporarily to put the quietus on a troublesome member of my party. Let us call him Tom. Somehow he was always in difficulties. His morals were questionable and his temper quick; indeed, his generous nature was all that stood between him and serious consequences to many of his escapades. At the *Hacienda El Triunfo,* near Hondo, he accidentally shot a native boy in the face. He spoke no Spanish and by the time I arrived on the scene it looked as if he might be mobbed. It was only by praising the victim's pluck and volunteering personally to remove the shot that I finally pacified the angry natives.

That same night Tom as usual spread his bed directly beneath my hammock. I think he liked to be near me; also my hammock provided him with a sort of refuge against the resentment his companions bore him. We had all just settled down for the night when the rope at one end of my hammock broke. I landed plump in the middle of Tom's stomach, I was only slightly jolted, but it was sometime before Tom had even breath enough to speak. To my surprise, he took the accident as a carefully planned punishment on my part. And while he resented it, he knew his past offenses made it wiser for him to take it without protest. I know from

the furtive looks he gave me that he wondered what strange form my reproof might take the next time he erred.

In their contact with so-called civilized men, I have often been surprised that the native is not more violent and resentful than one finds him. Their experience with civilization is frequently not such as to inspire trust or confidence. To be sure among his own people he has his private feuds and often his own cruel forms of retribution. But in normal intercourse he is gentle and well-mannered and nearly always generous. Measured by even the white man's standard his behavior is dignified and pleasing. The behavior of men who considered themselves far above the level of the jungle dweller was often in distinct contrast and to the credit of the latter.

The following incident, taken from my diary written at a military camp on the Orinoco during the Castro revolution in Venezuela when President Crespo was deposed, will serve as an illustration. The town was Caicara.

The house and patio adjoining my own was occupied by a company of Government troops. A more unsoldierly gang could scarcely be imagined, and the remark applies equally to officers and pri-

vates. The camp and its occupants were filthily dirty. Only a comparatively few of the men had any clothes other than those on their backs.

The entire patio was used as a latrine. The cattle belonging to the revolutionaries were confiscated and slaughtered as rations for the soldiers. Nothing else was included in the rations. Much more meat than could possibly be used was prepared at each meal. As a result great quantities became putrid and were then thrown into the patio to add its stench to the already foul odors.

Discipline was a thing unheard of. A guard was kept at the front entrance of the house, but the wall surrounding the patio was unguarded and could easily be scaled. I have said there was no such thing as discipline; but should a private incur the displeasure of an officer punishment was swift and cruel. And it was the same sort of punishment that was inflicted on the luckless revolutionary that fell into the hands of "los Federales" as I can testify from personal experience.

A common form of punishment was to suspend a prisoner by the thumbs against a wall just high enough so that the toes barely touched the floor. An hour was enough to cause the strongest man to swoon. Another form of torture was to seat the

victim on the floor with knees drawn up, encircled by the arms and the thumbs tied together. Then muskets were piled upon the arms until the man would faint. The suffering of a man suspended by the heels and flogged with steel ramrods was not half so great.

Naturally the native often had a chance to view such offensive pictures of so-called civilized men. And in his crude untutored mind he could draw but one conclusion; that civilization—though he might have no concrete term for it—was a degenerating influence; and that those who were victims of it, despite their firearms and fine raiment and imposing activities, had fallen below the level of the most ignorant jungle dweller.

* * *

The dress and many of the customs of the natives of various South American countries, especially the Indians, are interesting and even picturesque; but the people themselves, with rare exceptions, are not attractive to look at.

In the spring of 1920 I was at Cuzco, the one time capital of the Inca Empire and I remember an incident which was a sequel to the feast of Corpus Christi that had taken place a few days earlier.

I had wandered about the market place for a little while in the early morning and later had climbed the hill up toward the pre-Incan fortress of Sacsahuaman, turning aside when I reached the terraces at Colcompata where the first Inca, Manco Capac, is said to have built his palace. Much of the supporting walls of the terraces are still intact and fragments of the palace walls are still to be seen. A part of the site of the palace is now occupied by the Church and Plaza of San Cristobal which was the first church erected by the invading Spaniards in Cuzco, and, like practically all other buildings there, is built of hewn stone taken from razed Incan structures.

While lingering in the Plaza in front of the church that overlooks the city I heard an uproar in the streets below. My first thought was that a revolution had broken out. I hurried to a point which afforded me a view of the city below.

The street leading up from the Cathedral Square in Cuzco to the Plaza in front of the Church of San Cristobal was narrow, crooked and steep. It was filled with a motley crowd, chiefly Quichua Indians, bearing in their midst the heroic figure of San Cristobal mounted on a massive wooden base. The multitude was filled with a religious fervor height-

ened by copious draughts of *chicha* wine. As the platform bearers advanced with unsteady gait, the statue lurched from side to side. Its escape from an ignominious plunge into the street was at times little short of miraculous.

At frequent intervals the procession would halt. Then there ensued a wild struggle in the crowd for the honor of a place to help carry their patron saint. During these moments the statue and platform would roll and toss like a ship in an angry sea.

Following the procession was a rabble of Indian men and women, many of the latter carrying on their backs great earthenware jars filled with *chicha.* During the frequent halts the women wine bearers would hurry forward proffering great bowls of the wine to their perspiring lords. However, despite these frequent libations, the surging mob finally reached the Plaza before the Church door.

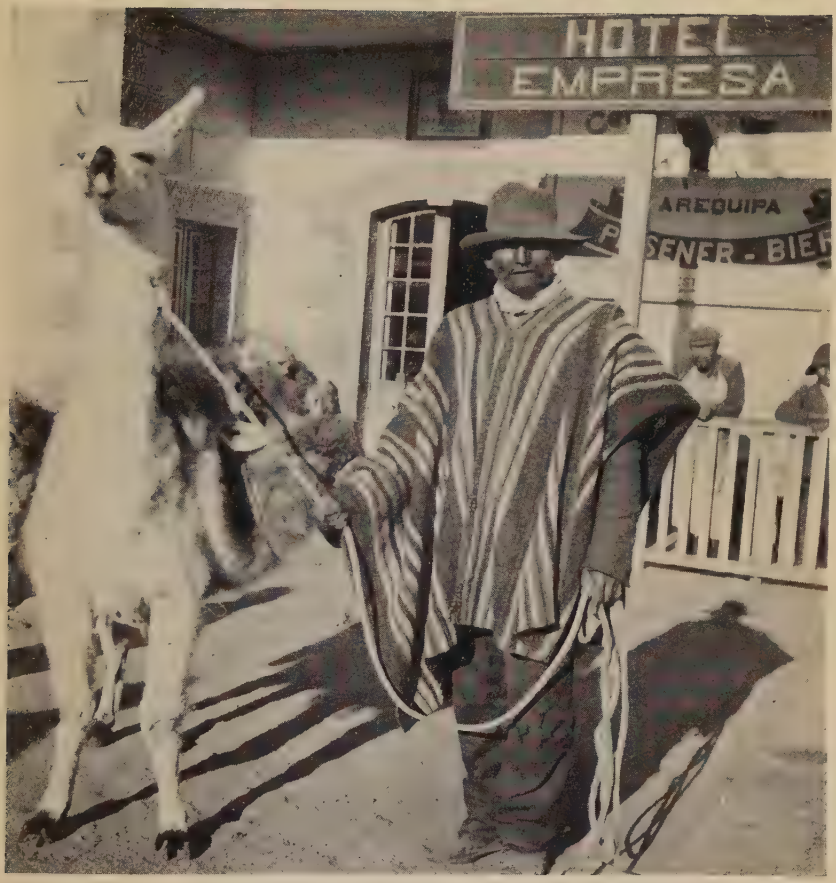
There the Indian Head Man (too much overcome to resist) was hoisted on to the shoulders of his enthusiastic followers and carried around the sacred image followed by the censor bearers.

The women continued to distribute *chicha* to the half drunken men. Two or three ineffectual attempts were made to get the saint through the

church door. The platform would bring up against one side or the other and for a time it looked very much as though San Cristobal would come to grief. But at last the statue went through the door with a rush and was deposited at its proper station. Candles were lighted before the image and the surging crowd emerged again into the Plaza where *chicha* drinking was resumed. An indescribable orgy followed, fantastic and barbaric. Men and women were overcome by the wine; many danced, whirling wildly about, gesticulating and screaming, their bright costumes adding vivid color to the scene.

When the excitement was at its height the old Spanish priest who had accompanied the procession from the Cathedral, came over to where I was standing and said: "Señor, I think it would be safer if you and I retired. The Indians now have their own ceremony to perform."

Perhaps I should add at this point that my many years' experience in South America have taught me that the one-time peoples of the Incas, the Quichuas and Aymaras, are today just as devout worshippers of the Sun as they were during the time of the Incas. Many of them unquestionably look forward to the coming of an Inca who



LLAMA AND GUIDE AT CUZCO, PERU.

A QUICHUA INDIAN, DESCENDANT OF THE INCA'S PEOPLE.

will strike off the shackles of servitude and give them back the land which is theirs.

A little incident that occurred one morning when I was leaving the city of Cuzco for a journey down the Urubamba Canyon illustrates their sentiments. The sun was just coming up over the mountain tops when I reached the rim of the basin in the bottom of which lies Cuzco. There several groups of Quichuas had assembled. They were leaving the city but there they paused, removed their head coverings, knelt and prayed for the City of the Sun, the Sacred City, and for the coming of that Inca who would give them their freedom and whom they could serve with loyalty and love.

In 1889 when I was working on a small tributary of the Orinoco, the Quiribana, I occupied a part of an adobe house, the roof of which extended far beyond the side walls, forming an open gallery or corridor. This proved a cool, pleasant place for carrying on my work of making up bird or mammal skins and for the writing of my notes at night. My bedroom opened on to this gallery and was without a window. As the only light and air came through the door, I swung my hammock diagonally across the room.

As theft is not very common among the coun-

try people their houses are rarely locked. Indeed, they are often without doors that will close. I never thought it necessary to bring any of my belongings into my bedroom at night. But as the days passed I missed one article after another. From the fact that I had very rarely lost anything by theft from the natives I was loathe to believe any one was now robbing me. One night I was awakened from a sound sleep by some noise. I lay for a moment listening as I peered into the moonlight that flooded the doorway and the patio beyond and was startled when I saw a figure cross the moonlit space and come toward the house. Without making a sound, I sat up in my hammock and reached back of me for my gun which I always kept near me.

In the darkness my hand made wide circles but without touching the gun barrel. I then reached for my holster which hung from the end of the hammock, and slipped out the revolver. Getting quietly out of my hammock I walked noiselessly in my bare feet to the door. The man I had seen crossing the patio was still in the gallery under the eaves helping himself to everything I had on my table: scissors, instruments, knives, and a host of articles without which it would have been impos-

sible for me to carry on my work. A moment later with a sackful of my belongings over his shoulder, the thief started across the patio in the bright moonlight. I shouted "Halt!" He started to run. I called a second time, "Halt or I will shoot!" When he continued to run I shot. He went down.

The moment I shot I felt uneasy. There was a woman in the house and I did not know what effect the shooting might have on her. At the sound of steps I turned, expecting to hear a frightened outcry. But I was quickly relieved of any uneasiness. The woman stood by my side and whispered to me, "Did you get him, Señor?" She apparently wasn't the kind that was upset by a little shooting.

The next morning I made my way to the nearest village on the Orinoco where I reported the man's death from "heart failure" at Quiribana. When the justice of the peace, who was a personal friend of mine, learned who the victim of the weak heart had been, he asked very few questions. After the identity of the dead man had been established he intimated that no inquest was necessary. The man was a notorious thief.

Not all my experiences were so dramatic as those I have just described. While on a bird-collecting

trip for the American Museum in the autumn of 1916 I spent several weeks at Puerto Pinasco in the Paraguayan Chaco at the headquarters of one of the New York and Paraguay Company's cattle ranches and learned a good deal about the peaceful side of South American country life. I accepted an invitation to visit "Fort Wheeler," one of the large outlying ranches, situated about fifty miles west of the river. The company at that time operated a service railroad line for about half the distance. From the end of the rails a horseback ride of from four to six hours (in the dry season) through palm-dotted open *campo* and picturesque glades in the tangled forests that clothe the areas of high ground brought me to the stockaded ranch house.

Six thousand breeding cows were kept on the ranges about "Fort Wheeler." Nevertheless, it was a pleasant surprise when I found I could get a cup of milk in the mornings. On many of the great cattle ranches of South America one of the things most difficult to get is fresh milk!

Native white cheese finds ready sale everywhere in South America. The labor involved in its production is not confined to the handling of the milk alone. It begins when from the most likely-looking

THE WINDSWEPT PUNO.

SAN CRISTOBAL BEING RETURNED TO HIS HOME, THE FIRST CHURCH BUILT IN CUZCO.

of the thousands of cows on the ranch a few of them, as they freshen, are selected by the cowboys. They have never been handled and are practically wild cattle. The chosen animals are "roped" and then driven and dragged, together with their calves, to the central corral. To subdue and "gentle" them is the first requisite. As a preliminary, rendering them less dangerous, the tips of the horns are sawed off. This also serves to distinguish the milch cows from the rest of the herd.

After a cow has been man-handled for a day or two, her spirit is apparently broken and she will submit to being milked. However, they are never taught, or at least never trusted, to stand quietly for milking. It matters not how old and gentle they may become. A rope is always thrown over the horns and the animal "snubbed" up close to a fence or hitching post and the hind legs tightly bound together with a rawhide thong. The milk is always "started" by a calf whose appetite has been whetted by a separation from the mother for at least twelve hours. He is then tied to one of the cow's front legs while the milker does the rest.

After the cows have been "tamed" the women take charge, not only of the cows but also of the handling of the milk. Milking is done only once a

day—in the morning; after milking the cows and calves together are turned out to graze. At about two o'clock in the afternoon, they are again rounded up and driven into the corral where the calves are separated and put together in small crowded pens. The cows are then permitted to wander at large.

Rarely will the calves be deserted by their mothers. They may wander away for a long distance but most of them work their way back to the corral and are on hand at an early hour when the milking begins.

Only one hand is used in milking. The other holds the container. At "Fort Wheeler" old ten-gallon kerosene cans were employed as milk pails. After about three-fourths of the milk is drawn the calf is allowed to get its share and to follow it's mother until the round-up in the middle of the afternoon.

After the milking is finished the milk is carried to the ranchhouse, strained and poured into a vat or bag formed by the edges of a green cowhide, flesh-side in, lashed to a square wooden frame supported on four posts.

Coagulation is affected by stirring the milk with a piece of rennet. The whey is then squeezed out and the curds packed into perforated tin forms,

a layer of salt put on top, and the whole set aside to drain. The following morning the "cakes" are removed from their molds and all the little crevices and holes filled by rubbing in fresh curds. This is followed by a few days of "ripening" in a dry airy place, after which the cheese is ready for the market. Before being sent to market all the cakes are scraped smooth and clean.

The point that bears on my story is really not the technical excellence of the system, interesting as it is but the fact that the dwellers on these far-off Paraguayan ranches are so sufficient unto themselves. They live as if the world revolved around them, instead of around the big centers of industry. They are born and grow up, mature and marry, grow old and die, altogether contented with their lot. Like Eskimos or South Sea Islanders, the outside world is a hazily distant place, confused with myth and clouded by ignorance. They have no desire to visit it. Life, they philosophically conclude, is hard enough as it is—pleasant enough, too —without adding unnecessary complications.

PART SIX

DOWN THE RIVER OF DOUBT WITH THEODORE ROOSEVELT

LATE July 1913 was very hot! Even at my home among the green Vermont hills there was no doubt of it. I was lounging in comfortable fashion in the shade of an apple tree when a letter postmarked "New York" was handed to me.

The note was from Dr. Frank M. Chapman of the American Museum of Natural History, and queried my willingness to make another South American expedition. Having just returned from my twenty-fifth trip to that country, my enthusiasm did not break bounds. However, ten days later I went to New York for a conference. There I learned that it was proposed I should accompany Colonel Roosevelt, ex-President of the United States, to the interior of Brazil as naturalist of his expedition.

We met at luncheon—the Colonel, Dr. Chapman

and I—and discussed plans for making zoological collections for the Museum in connection with the trip. Later Chapman and I arranged details regarding my outfit and supplies.

Although the arrangements for my collecting were made between Chapman and me, the Colonel, nevertheless, asked for an occasional conference with me. At these conferences he displayed an eager interest in the animal life of tropical Brazil, and I was struck by his general knowledge of Natural History. I have a vivid recollection of one of our discussions. The Colonel, having satisfied himself regarding various matters probably considered the conference at an end and had returned to his desk. I tarried, for I had had no previous close acquaintance with Colonel Roosevelt and felt uneasy as to what his opinion might be regarding some of my personal habits. At any rate I spoke to him and said:

"Colonel Roosevelt, I think you should know a little bit about me before we start on this journey into the wilderness."

"Well," said the Colonel without turning around, "What is it, Mr. Cherrie?"

"I think," I said, "you should know that I occasionally drink."

THE SEAT OF THE INCA ABOVE THE FORTRESS OF SACSAKUAMAN.

PLOWING IS DONE AT QUITO IN THE SAME FASHION AS A HUNDRED YEARS AGO.

The Colonel went on writing. I waited—it seemed to me a very long time. Then he whirled around in his chair, looked me straight in the eye and said: "Cherrie, you say you drink?"

"Yes," I replied, "I occasionally take a drink."

"What do you drink?"

And I replied, "Well, Colonel, that depends a good deal on what is available."

"How much do you drink?"

"All that I want."

The Colonel shook a finger at me and said: "Cherrie, just keep right on drinking!" Then he turned to his desk and continued his writing. The interview was at an end.

Before sailing and during the voyage we discussed many routes that we might follow through Brazil; but not until we had reached Rio de Janeiro was it definitely settled where we were to go. There we first learned of the "River of Doubt." Colonel Rondon, a famous Brazilian explorer, had recently terminated an expedition on which he had discovered the headwaters of an hitherto unknown river. He named his discovery the Rio de la Duvida because he did not know what its course might be.

During a conference with Brazil's minister of Foreign Affairs, that official volunteered the co-

operation of his government in the exploration of this unknown river. The idea appealed to Colonel Roosevelt's imagination and he immediately accepted the offer.

So it was that two months later we were on our way up the Paraguay River and its tributary, the Sepotuba, to a military station where the Brazilian Government had assembled for us mule and oxen transportation across the tableland of Central Brazil. After thirty-seven days in the saddle we reached the point on the River of Doubt at which Colonel Rondon had turned back. Here we secured from the Indians seven dug-out canoes in which we embarked on a journey of peril and adventure such as none of us had ever contemplated.

Nearly two months were spent in descending that unknown river. We lost six of the seven canoes with which we started and built five new ones during our journey. Some of our men died terrible deaths in the rapids. We had a murder in camp. We all suffered from fever. For days we were hungry. At one time Colonel Roosevelt was so ill that I wrote in my diary: "I don't believe he can live through the night." Such briefly were some of the unforgettable incidents of that journey.

I realize that no one individual could have seen

all that happened on such an expedition. And that no two people see the details of any occurrence from exactly the same angle. Neither do two people interpret what they see in the same terms. It will not be surprising, therefore, if my account of some of our experiences do not always agree with those of the Colonel as set down in his book "Through the Brazilian Wilderness."

I have always felt that Colonel Roosevelt did not give adequate stress to many of the daily occurrences. I am sure he did not attach sufficient importance to his own part in our many adventures. To illustrate my point let me quote from my diary a part of an entry made at Arripidinha, our twentieth camp on the unknown river (March 27, 1914):

"Twice today we had to portage our cargoes but were able to run the canoes down through the rapids. At the first series of rapids we narrowly escaped a serious loss. Three of the boatmen were bringing down the larger of our *balsas*. In attempting to make an abrupt turn in the run through a narrow channel near the shore that was bordered with sharp jagged rocks overhung with vines and creepers, the canoes were entangled by the overhanging vines and thrown out of their course. In

the fraction of a second the racing current had wrenched the boats apart. One was caught on the rocks and capsized, the prow of the other being driven beneath it. Both canoes filled instantly with water but the swift current swept them against the protruding rocks where they were held as in a vise, instead of being whirled away to be crushed amid the boulders in the main channel below.

"I heard the screams of the canoemen and rushed up to help. On seeing what had happened, I turned and ran down to the foot of the carry where the other members of the party were waiting. On giving the alarm everyone, including Colonel Roosevelt, hurried back along the shore. By our combined efforts and working in the rushing water up to our waists, we were able to raise the canoes, one at a time, get the water out of them and hold them until a canoeman with a steering paddle was ready to direct their course through the rock-bound channel down to quiet waters. There were many anxious, strenuous moments before the danger was past."

While assisting in the salvaging of the two canoes the Colonel struck his shin against a sharp edge of rock, inflicting an ugly wound which did not completely heal until after we had left Brazil.

The wound he received that day, I have always felt, was responsible for much of his suffering during the remainder of the journey. It became infected and remained as a running sore. His rushing into the water to assist was entirely characteristic of him. And he did this after many days of suffering from fever which had weakened his vitality. He could not stand idly watching others at a time when action was required.

In the weeks of trying hardships when the fates seemed all against us, despite the fever and dysentery that were sapping his strength, he never failed, day after day, to make inquiry about his camp companions including the canoemen and camp helpers. We finally reached the point on the river where it cuts its course through a narrow canyon and where the difficulties of passing our canoes seemed insuperable. At this point some of our companions advised abandoning the canoes which meant that everyone must fight for himself through the forest. Although too sick to walk there was no word of complaint from the Colonel, but that night he called his son Kermit and me to his side and said:

"Boys, I realize that some of us are not going to finish this journey. I know that I am only a burden to the rest of you." Turning to me, he added:

"Cherrie, I want you and Kermit to go on; I want you to get out—I will stop here." Of course we refused to listen to any such plan and finally convinced him that we would not go on without him.

All told, I have made a great many journeys to out of the way places, thirty-eight of them to the Land of the Conquistadores, that fascinating land of romance and adventure, but this expedition with Roosevelt as leader and comrade marked a high spot in my career. It brought me experiences and associations which are among my most cherished memories.

I have had companions—good, bad and indifferent. Only one, Theodore Roosevelt, remains in my memory as the ideal camp mate.

On a bright October day the *S.S. Van Dyke* pushed her way through the small craft of the East River, bearing Colonel Roosevelt and his party on their way to South America. As the shrieking of the sirens on the river died away Manhattan Island became but a violet haze behind us as we headed for the open sea. The many intimacies of shipboard life began. Our party numbered seven, the Colonel, Dr. Zahm, Anthony Fiala, Frank Harper, secretary to Colonel Roosevelt, Sigg and myself. Of the informal conferences that were held

A COWBOY OF THE PARAGUAYAN CHACO.

MARGA, A NATIVE CHEESE MAKER OF THE CHACO.

during the voyage I have most agreeable recollections. The Colonel's friendly interest in each member of the party and his almost boyish enthusiasm for the project in hand won our confidence and loyalty at the outset. One of Roosevelt's most endearing qualities was his never-failing eagerness to hear of other men's aspirations and achievements, and to give full praise and credit wherever due. His generous appreciation of any honest effort stimulated each one of us to contribute his best toward the success of the enterprise.

The Colonel was a good sailor and enjoyed to the full every activity on shipboard. One evening when there was a lull in the dancing he took the floor, much to the surprise of some, and to the delight of all, and danced a hornpipe in true sailor fashion, the performance bringing a storm of applause and a chorus of "Encore!" His enthusiasm and his two hundred and twenty pounds of avoirdupois were the deciding factors in the "tug-of-war" between the married men and the bachelors on the ship. He was popular with young and old, and long before the end of the voyage he had established an enviable reputation as a *raconteur*. His stories of outdoor life, his hunting trips in the west and anecdotes of his African journey and tales of politi-

cal struggles were all told with a charm and simplicity that held a constantly widening circle of listeners enthralled.

Roosevelt's personal magnetism was well illustrated during the journey to Rio by the following incident. One of the passengers came to me one morning shortly after the beginning of our voyage and said: "What about this fellow Roosevelt? I don't think much of him!"

"Do you know Colonel Roosevelt?" I asked.

"No, and I don't want to know him!"

While we were still conversing the Colonel appeared on deck and, as he approached us, smiled his good-morning to me. When he paused near us I introduced the man who drew himself up somewhat stiffly in acknowledgment of the introduction. If the Colonel noticed the man's attitude it was only to ignore it and began conversing affably. At that point I withdrew. Returning perhaps a half hour later, I found the antagonistic stranger arm in arm with the Colonel, walking up and down the deck! The following morning the first person I met was the gentleman who hadn't thought much of Roosevelt. He came forward with outstretched hand and enthusiastically remarked. "Mr. Cherrie, I told you yesterday that I travelled ten thousand

miles to vote against Roosevelt. I am ready now to travel twenty thousand miles to vote for him!"

The incident was typical. Roosevelt had the ability to make friends quickly, and since the days of our intimate association through the Brazilian Wilderness I have felt that it would have been impossible for anyone to have been brought in close contact with him without loving the man.

When we awakened on the morning of the 10th, there lay before us in the distance an island with bright green fields of sugar cane, rising one above another like terraced lawns. Picturesque windmills stood here and there like long-armed sentinels and stately Royal Palms crowned the ridges of the gentle hills. White spray dashed over coral reefs and along the stretches of gleaming sand, with their background of graceful cocoanut palms. Thus was presented to us the pleasing panorama of the shores of Great Britain's oldest West Indian possession —the Barbados. We were joined here by Mr. Leo Miller, who was to be my companion naturalist for the expedition.

The afternoon of the 13th and all of the 14th found us off the Brazilian coast, just opposite the mouth of the Amazon, but so far away that there was nothing to indicate the proximity of that great

river. Two days later, at about 9 A.M., we crossed the "line" and at noon were off the most eastern point of South America. Land was in sight and we had our first glimpse of the country in which we were to meet with so many thrilling experiences.

On the 18th, through the early morning mist we saw the vari-colored stucco walls of the city of Bahia mounting upward from the wave-washed beach of the open roadstead to the crest of the bluff, 300 feet or more above. When the sun broke through the clouds there lay before us an enchanting picture.

A gaily beflagged launch arrived alongside our steamer bringing greetings from the Governor to Colonel Roosevelt, and an invitation to visit the city as his guest. While appreciating the courtesy of the Governor's invitation, Kermit's presence on that launch was of greater interest to the Colonel and Mrs. Roosevelt.

All the members of our party went ashore, where a reception committee in much gold-braided uniforms awaited with automobiles to whirl the "Americanos" to a breakfast banquet. Despite its being a breakfast, there was much liquid refreshment offered, many toasts were proposed, and sentiments of mutual admiration for the United States and Brazil voiced by hosts and guests alike.

Our next stop was at Rio and there the tentative plans we had made for our journey through Brazil were completely changed. During one of the conferences held with Señor Lauro Müller, then Brazil's Minister of Foreign Affairs, when our expedition was under discussion, Colonel Roosevelt remarked that he hoped to get away from the well-known trails that had been followed by other travellers and explorers. Señor Müller then made the suggestion: "Colonel Roosevelt, why don't you go down an unknown river?"

It was then that Colonel Roosevelt first learned of the River of Doubt, and of how Colonel Rondon, chief of the Telegraphic Commission of Brazil, in his effort to put through a telegraph line between Rio and some point on the Madeira River had, in the high tableland of Matto Grosso, discovered the source of a stream whose course he did not know. He had followed it for a distance of about a hundred miles to a point from which he knew that its waters must ultimately enter the Amazon. But not knowing what its course from there might be, he had christened it "Rio de la Duvida," or River of Doubt.

The idea captivated Colonel Roosevelt and he said

immediately, "We will go down that unknown river!"

During this same conference as I have already stated, Señor Müller volunteered the assistance and cooperation of the Brazilian Government.

At Rio the party separated temporarily; the Colonel to fill his speaking engagements in Brazil, the Argentine, Uruguay and Chile; Fiala, Miller, Sigg and I to proceed to Buenos Aires with all of the expedition's equipment, and thence up the Parana and Paraguay to Corumba, the capital of Matto Grosso, the largest state in Brazil. At this point it had been planned that the expedition should reunite for the long voyage up the Paraguay and its tributary, the Sepotuba, to the tableland that forms the watershed between the Paraguay and the Amazon.

A bulky conglomeration of many pieces formed the expedition's equipment. There were well over a hundred pieces, consisting of tents, cots, tables and chairs, supplies for the care and preservation of Natural History specimens, cameras, theodolites, food supplies and cooking utensils, guns and ammunition, and other paraphernalia. This extensive outfit was the cause of an amusing incident at Buenos Aires when it was being transferred from

the *Van Dyke* to the pier. As a perspiring stevedore deposited the last piece of equipment, a customs officer asked him if that was all. The man's quick-witted reply, as he mopped the perspiration from his face, "Nothing lacking but the piano!" brought a burst of laughter from the bystanders.

Miller and I left Buenos Aires as soon as we could arrange for transportation to Asuncion, the capital of Paraguay. This interesting little country, whose history reads like a romance, pitted its meagre strength in 1862 in a disastrous five years' struggle against its giant neighbors, Brazil, the Argentine, and Uruguay. War so reduced the male population in Paraguay that there were eleven women to every man; and even today some of the small villages are inhabited almost entirely by women. In the early morning women farmers were seen bringing the produce of their plantations to the market place where it was sold by them. Not only do they perform the duties of men on the farms and in the villages, but the Paraguayan women make some of the most exquisite laces in the world. The traveller may obtain these at relatively small prices in Paraguay; but once they reach such places as Rio de Janeiro, Buenos Aires, New York or Paris, they command very high prices.

On our first morning in Asuncion we were awakened by the song of a little white-throated Andean Sparrow that had chosen the piazza rail just outside of our window from which to deliver his morning's greetings—greetings that carried us back in thought to New England and the song sparrow's cheerful trills.

We found that we had a fortnight to wait for the next boat up the river to Corumba. This gave us opportunity, through the good offices of the American Consul, Mr. Harris, and Prof. Febrig of the National College of Paraguay, to arrange for an excursion into the Chaco country up the River Pilcomayo. We crossed the Paraguay and ascended the Pilcomayo to the headquarters of a company operating a plant for the extraction of quebracho, which takes the place of hemlock or oak in tanning. The superintendent of the plant courteously invited us to spend the night there and volunteered to send us the next morning over the company's service railway, a distance of about twenty-five miles to the end of the line.

The railroad traversed a monotonous, flat, bush and grass-covered plain. As it was the season of high water much of the country was flooded, the water varying in depth from a few inches to sev-

eral feet. During the annual floods about all that is exposed above the surface of this vast inland sea of the lower Paraguay and its tributaries are a few islands and the rows of trees which mark the banks of the permanent ponds or streams. Along our route bird life was abundant; the species most conspicuous were the kingfishers and ovenbirds. There was keen competition between them for the fence-posts and telegraph poles along the railroad. These served as lookout stations for the kingfishers in their watchful waiting for unwary fish in the pools below, and as support for the ovenbirds' two-roomed adobe nests, shaped like old Dutch ovens. Only by unfailing vigilance and constant warfare were the ovenbirds able to retain possession of their little homes. Not only did the kingfishers seek to use them as perches but the house martins and yellow finches coveted them as cozy nesting places, taking possession of them at every opportunity.

We established our camp under a temporary shed that had been erected by the company that was logging the quebracho in that region. Our stay at that camp was not long, but was rich in experiences of varied character. It also rewarded us with many interesting specimens of birds and other animals

of whose life histories we had previously known but little.

We arrived at about four o'clock in the afternoon and looked forward to a splendid evening's collecting. But a surprise awaited us. About an hour before sunset, just as we had concluded our camp arrangements great clouds of mosquitoes descended upon us. Not fifteen minutes had passed until the roar of the wings of countless thousands became appalling. They settled on us in hungry hordes and quickly put us both to flight. We crept under our hammock nets and although the heat there was intense, we found that we could bear it more easily than we could the onslaught of the mosquitoes.

In all my thirty years' experience in South American work, on the Amazon, the Orinoco, the Magdalena, and many other mosquito and other insect-infested regions, I have never been in a locality where there were, day and night, such swarms of insect pests—mosquitoes, black flies, sand flies and *tabanos,* a species of horse-fly, to make life unbearable. Out in the open it was the black flies that annoyed us most; in the bushes and forest shade mosquitoes swarmed in such incredible numbers that they had to be brushed aside before one could aim a gun! I wore a pair of socks on my hands and

a small towel wrapped about my head and neck to protect myself from these mass attacks.

The irritating bites of the black flies drove us to the stifling heat of our hammock nets for the preparation of our specimens and the writing of our journals. At night the sand flies and mosquitoes vied with one another in driving sleep away. Colonel Roosevelt, in his account of the journey through the marshland country of the upper Paraguay, speaks of finding the mosquitoes much less troublesome than at many places on the lower Mississippi or the New Jersey marshes. But I feel sure that had he been with us on the Pilcomayo he would have agreed that the Jersey mosquito is a mere tyro!

Our camp was located on the bank of a sluggish stream and Miller concluded one afternoon to do some fishing. He was having great luck. Suddenly I heard an outburst of considerable profanity and he came running to show me his hand, from which a good sized piece had been torn by a piraña, the most bloodthirsty inhabitant of tropical waters.

At the end of five days our enthusiasm for working on the Pilcomayo had subsided. Returning to Asuncion we found that Fiala and Sigg had ar-

rived with all baggage and equipment from Buenos Aires, and were ready to continue with us to Corumba. The voyage up the Paraguay from Asuncion traverses a country of vast, nearly level plains that stretch as far as the eye can reach in all directions. The river winds about in serpentine fashion and is bordered for miles at a stretch with a narrow belt of mixed forest growth. Beyond, on either side lie the open grassy plains dotted with Moriche Palms, forming natural pasturage for great herds of cattle.

Much of this region teemed with bird life. Flocks of roseate spoonbills soared above us like gorgeous colored clouds. Great kingfishers added their discordant clatter to the cries and screams of black skimmers, terns, ibises and herons. Thousands of tree ducks, startled from nearby ponds or marshes, left the water with a roar of rapid wing beats that drowned the chug of the steamer's engines and added to the general effect of a wild stampede. Waterfowl were everywhere along the river. Herons, egrets and ibises wandered about over the wet grassy meadows while cormorants and snakebirds that feed exclusively on fish frequented the ponds and streams in great numbers. Both of the latter have the ability to swim with the

THE INDIANS ALONG THE PARAGUAY RIVER, DESPITE CRANKY CANOES, STAND UP TO DO MUCH OF THEIR PADDLING.

THE AMBULANCE IN ACTION.

body completely submerged; and, in the case of the snakebird, often only the bill and head as far as the eyes are visible. The effect is decidedly "snaky." Both seemed out of place in the trees, their clumsy and heavy movements there being so very different from their lithe graceful evolutions in the water.

As we neared Corumba the monotony of the landscape was relieved by short ranges of hills that rose abruptly from the level plain. The river's channel ran so close to the base of some of the hills that the rocky broken surface was clearly revealed beneath the somewhat stunted forest growth. Frequently great flocks of snowy herons arose from the marshes. At one point we passed a large lagoon fringed with low trees, along the shore of which there stood great numbers of giant jabiru storks, statuesque, silent and watchful, like Nubian guards in immaculate white jackets with red collars, in striking contrast to the ebony skin of head and neck.

Our first glimpse of Corumba was enchanting. It lay bathed in the early morning sunshine, the red tiled roofs and white walls in pleasing contrast to the rich green of banana trees and the fronds of waving palms. Much of the business and all of the residential part of the town was situated on a bluff some two hundred feet above the river, affording

an extensive view out over the low flat country which is so characteristic of the upper Paraguay River.

Corumba has been settled for nearly three hundred years, but its development has been very slow. This may be due to the climate, which is not conducive to physical or mental activity. The heat is often almost unbearable and is accompanied by a high degree of humidity. During the month of November the daily temperature varies between 95° and 100°. The surrounding country is sparsely populated and the town itself lies a long way from any market. We found the place full of surprises. A city of ten thousand inhabitants without a market place, with no street cars, no automobiles, and only a single carriage for hire! For ambulance service a hammock was swung from a long pole that was borne on the shoulders of a couple of porters. But the town boasted of electric light, a brewery and an ice plant.

The immediate neighborhood of Corumba offered little attraction to the naturalist; and, as we expected it would be a month or more before the Colonel and the Brazilian contingent of the expedition should arrive, we were delighted when we heard of the *Fazenda* Urucum.

At Urucum, a large ranch about thirty miles from Corumba, we found pleasant surroundings and comfortable quarters where we could carry on our natural history work.

The dwellings of the owners of the ranch together with the houses and cottages of the employees, were located at the foot of a range of hills that rose abruptly from the generally level, grassy plain that borders the Paraguay. The lower two-thirds or more of the rocky sides of these hills were heavily timbered; while the upper slopes and the nearly level mesa-like tops were covered with tall-growing coarse grasses. Near the foot of the Urucum range much of the forest had given way to cultivated fields, that were in turn succeeded by bush and pasture lands; the latter were mottled with many irregular areas of thickets and low forest growth, particularly near the water courses and ponds.

On the heavily forested hillsides wild pigs in small droves were not uncommon; squirrels were abundant and troupes of little marmoset monkeys were frequently seen. The monkeys were of a species with which I was unfamiliar, and consequently of unusual interest to me. On my first encounter with them I shot an old male that was carrying a half-

grown young. I had always credited the female monkey with a normal fondness for her offspring and the male's interest in family affairs merely that of a jealous guardian of his harem. But the male black-faced marmoset showed his solicitude by assuming the actual care of his young as the troupe scurried through the tree tops. In no other species of monkey have I seen the male assume this responsibility.

During our stay at Urucum, being inland and far from both the river and marshes, comparatively few water birds were seen. Our collections, numbering some eight hundred specimens, consisted almost entirely of forest or bush-loving species.

The birds and small mammals that were gotten from day to day were made up into cabinet skins and packed. We did this in order that we might the more quickly get our outfit together and start for Corumba when apprised of the arrival of Colonel Roosevelt and the Brazilian members of the expedition. As a result of this little bit of preparedness we had our equipment and collections in Corumba on the evening of the same day we were notified that the expedition's boat was due to arrive.

When the Colonel had finished his speaking engagements he and his party made their way to Asun-

cion, the capital of Paraguay. There the Paraguayan government placed at his disposal the President's gunboat-yacht, the *Adolfo Riquelmo,* to take them to Corumba.

Miller and I, having left Rio ' Janeiro immediately after arrangements had been made for the cooperation of the Brazilian Government in our work of exploration, were ignorant of any subsequent plans that had been made by Colonel Roosevelt in his later conferences. Indeed, we did not know that Colonel Rondon was to accompany us. Colonel Roosevelt himself had not met that gentleman until the morning of December 12th at the Brazilian boundary-line on his way from Asuncion to Corumba. Colonel Rondon had arrived there with the other Brazilians who were to accompany the expedition on the little river boat *Nyoac,* which was to carry the entire party up the Paraguay from Corumba to San Luis de Caceres the head of navigation on the Paraguay.

We expected, and it was the Colonel's wish, to start for the interior immediately; but some of his Brazilian admirers, knowing his love of hunting, had arranged a jaguar hunt for him on the Taquary River, a tributary of the Paraguay with its mouth a few miles below Corumba. He could not resist the

opportunity of bagging a jaguar despite the delay in getting our expedition under way.

Before leaving for the Taquary he gave a farewell breakfast at the Hotel Galileo to the Paraguayan officials who had accompanied him to Corumba. In addition to them there were present members of the Brazilian Commission that were to accompany us. Many toasts were proposed and friendship and mutual admiration pledged.

From the time we arrived in Rio I think the Colonel had been served, almost daily, with champagne for breakfast, lunch and dinner. He may have enjoyed it in the beginning. But he had been "fed up" on champagne before reaching Corumba and required some outlet for his feelings. So, on the occasion of this last breakfast, after various toasts had been proposed, he leaned over toward me and whispered, "Cherrie, I loathe this stuff." And I feel sure he meant it for though I was present with him at many functions I never saw him drain his glass.

As many animals other than jaguar were to be found on the Taquary River, the Colonel thought assistance would be required in taking care of the specimens. So Mr. Miller was chosen to accompany the party.

A PRIMITIVE CANE MILL.

THE NHAMBIQUARAS VISITED OUR EVERY CAMP.

Knowing that there would elapse another ten days or two weeks before the expedition could start for the interior, I returned at once to Urucum to continue my collecting there.

On the morning of December 24th I received word that the Colonel and his party were returning. Within a couple of hours I was on my way to Corumba where I arrived shortly after he did. His hunt had been a success. Not only did he get his jaguar but many other mammals and birds were secured.

During a conference held on board the *Nyoac* that afternoon, Colonel Roosevelt expressed a desire to get away from Corumba at the earliest possible moment and asked Fiala to get our equipment and supplies on board at once. Fiala returned to shore to make the necessary arrangements for our departure and for the shipping to New York of the collections that had been made at Urucum. That evening everything was on board, but we were detained for a little time while Kermit with the photographer developed the pictures taken during the jaguar hunt on the Taquary. The Colonel was sending some manuscript for a magazine article to New York and wished to include the negatives.

Finally, late on Christmas Eve, the little *Nyoac*

whistled a goodbye salute to Corumba and turned her nose upstream headed for the unknown wilderness of Brazil. Our first night on board was delightful. There were no mosquitoes to bother us and we swung our hammocks up on deck.

The morning of the 25th dawned bright and clear but there was nothing in our surroundings to suggest Christmas until Colonel Rondon had the boat stopped and sent some of the crew ashore to gather palm leaves and other greenery with which the dining saloon was decorated.

Along the river that day very little animal life was seen; but just before sunset we passed a bit of open savanna where three fine buck deer were quietly grazing. As the deer raised their heads and gazed in mild surprise at our passing they made a pleasing picture. Much of our time was spent in discussing details of the journey ahead of us.

Rondon, who well knew the country we were going into and the difficulties we were sure to encounter, made it plain that it would be impossible for all the members of our party to descend the River of Doubt. He suggested that the scope of our exploration work might be broadened if one section of the party should continue from our proposed starting point on the Duvida and make its way

across the Plano Alto to the Gy-Parana and descend that stream to the Madeira and then to Manaos.

Early on the morning of this second day out of Corumba we turned from the Paraguay into the river San Lorenzo. During the morning hours and in the early afternoon the heat was intense, the thermometer registering 110 in my stateroom. Swarms of blood-thirsty *tabanos* contributed to our discomfort. About four o'clock we tied up to give the stokers a chance to clean the boiler-flues. Glad to get away from the tormenting flies we all seized our guns and started out for game. However, the bag brought in was not great, the most interesting thing being a crested screamer.

That evening just before nightfall a group of *capivari,* giant guinea-pig-like animals, often weighing one hundred and fifty pounds, were seen along the shore. They were greeted with a fusilade of shots, but only one small female was bagged; the skin and skull were prepared for our collection, while the meat was added to our food supply.

The following day we entered the Cuyaba River and early the next morning arrived at the headquarters of the Sao Joao *fazenda* where we were met by the president of the state of Matto Grosso who had brought with him a squad of state police

and a band. In front of the house two flag poles had been erected, from one of which a Brazilian flag floated. When Colonel Roosevelt stepped ashore an American flag was run up on the second pole and during the exchange of greetings the band played the national anthems of both countries. Hunting was carried on from Sao Joao as a base for five days during which time we added many interesting specimens to our collection. Then we descended again into the Paraguay. A day or two later we stopped for a few hours at Descalvados, a great cattle ranch where the following year I spent some time supplementing the natural history work of the River of Doubt expedition. Continuing up the river we reached Caceres. The *Nyoac* could go no farther. The journey from Caceres to Tapirapoan up the river Sepotuba was made in native flat bottom boats towed by a small steam launch. While waiting for that transportation we camped just above the mouth of the Sepotuba which is an Indian word meaning the river of tapirs. There Colonel Roosevelt shot his first tapir and many other fine specimens including two species of peccaries and three species of deer.

It was the sixteenth of January before we reached Tapiropoan where our trip overland with pack-

mules and pack-oxen to carry our food supplies and equipment was to begin. Several days were spent in apportioning the loads. Then began the journey of forty-four days, thirty-seven of them in the saddle, across the high tableland of Matto Grosso. During this time the organization and management of our outfit were not of the best. We would plan to make early starts from our camps, but frequently it was mid-day before we actually got under way. In consequence we usually rode through the hottest part of the day. It was hard on us, and harder for our pack and riding animals. To me personally, the constant delays were even more trying. They made it difficult, indeed almost impossible for me to do any collecting.

Finally we reached the point on the River Duvida where Colonel Rondon's explorations had terminated. There we secured from the Indians seven dugout canoes. Two of them were old, leaky and cranky. These two and two others we lashed together, in pairs, forming what are termed *balsas*. Into a *balsa* a great deal more baggage and more men are able to travel than can be accommodated in single canoes. Four of the canoes were paddled separately. Our party consisted of Colonel Roosevelt, Kermit Roosevelt and myself. Our Brazilian

companions were Colonel Rondon, Lt. Lyra and Dr. Capt. Cajazeira. In addition we had twenty-two canoe-men and camp helpers, and three dogs.

At noon on the twenty-seventh day of February we started on our journey into the unknown, down the River of Doubt. Kermit Roosevelt with two paddlers led in the smallest of our canoes. He carried a sighting rod with two disks set a meter apart, one red the other white. In the second canoe were Rondon and Lyra, who carried a telemeter and compass. They were to do the actual plotting of the stream. As we advanced, Kermit would go ahead as far as possible, usually to a bend in the river. He would drive his canoe ashore and plant the sighting rod where it could be seen by Lyra who would make a reading with the telemeter. Rondon would make the compass readings. Kermit would then move to another point and Rondon and Lyra take up their station where the sighting rod had last stood. In the evenings after we had made camp, Lyra would plot our course and calculate the distance run.

Following the two surveying canoes were the two *balsas* containing our food supplies, kitchen utensils, tents, etc. The canoe with Colonel Roosevelt, the Doctor and myself, brought up the rear. There

THE STARTING POINT DOWN THE RIVER OF DOUBT. COLONEL ROOSEVELT IN HIS CANOE.

THE AUTHOR AND HIS MULE, COMPANIONS ON MANY A TRAIL.

were three paddlers in our canoe: the steersman, Luiz, a negro from Matto Grosso; the bowsman, Julio, a Portuguese; and the third, a full-blooded Parecis Indian, Antonio, by name.

As it was the height of the rainy season the river was at flood. A great many trees had fallen into and across the stream, in many places almost completely blocking our course. As we had some strenuous times getting around these obstructions, we advanced rather slowly. But the work of surveying was even slower. And although usually the Colonel's canoe was the last to start, we always found ourselves far in advance before the day was half over. The paddling was hard, and after three or four hours of it our canoemen would give a sigh of relief when the Colonel directed the canoe to be turned inshore. If the surveying canoes did not appear after waiting for an hour or more we made camp although it might only be mid-afternoon. Due to the labor necessary in clearing the dense undergrowth that covered our camp sites it was always night before our tents were pitched.

On the first day on the River of Doubt only a few birds were seen and no other animal life. The following morning we set up a "marker" on which we inscribed "Camp 1" and the date "February 27,

1914." For the marker we selected a stick of hardwood, smoothing off one side with an adz for the inscription. We set up such a marker at every one of our subsequent camps.

Our second day's journey was much the same as that of the first. The river made innumerable twists and turns, first running away to the westward and then as much to the eastward; but at the end of the day we found that its general course had been due north. With the exception of two guans, a somewhat turkey-like bird, no game was seen along the shores of the stream; but in the neighborhood of our camp we found abundant game trails, indicating that tapirs, deer and wild hogs frequented the region.

The surveying canoes continued to get away as early as possible each morning. The *balsas* contained our food and the Colonel's canoe followed later, an arrangement that afforded me an opportunity to do some early morning collecting and make observations on the animal life seen about our various camps.

The third day out was one of almost continuous rain; but despite it we made good progress. Up to that time there had been no signs that the region was inhabited, but on this day we passed several

clearings. At one point the river was spanned by a rope made of twisted lianas that probably had formed the hand rail of a primitive bridge. The bridge itself had doubtless been swept away at the beginning of the rainy season. We were surprised at the paucity of animal life. However, I noted a number of jacu, another turkey-like bird, though considerably larger than the guan; and just before reaching our camp site I had the good fortune to kill a Barigudo monkey which was a welcome addition to our dinner. Even Colonel Roosevelt pronounced it good. It was his first experience with monkey meat.

That afternoon when we were making camp there occurred what was to me an amusing incident. Our men, in clearing away the brush and leaves from the spot where we wished to put our tent, uncovered a coral snake about three feet in length. Coral snakes are ordinarily not very active and while their poison is virulent, the fangs which are permanently erect, are so short that there is comparatively little danger of their penetrating ordinary leather or even thick clothing. My own experience with the coral snake is that it will strike only under greatest provocation. When the snake was discovered, one of the *camarados* attempted to

strike it with his axe. He missed, and it wriggled over to where the Colonel was standing. Despite his two hundred and twenty pounds avoirdupois he did a much livelier dance in attempting to set his foot on the snake than he did when he danced the hornpipe on shipboard.

For the greater part of the following day we had clear going in a generally northwesterly direction. But the number of twists and turns and doublings back and forth of the river were almost incredible. The region was low and flat and at no distant date must have been a great inland lake or marsh. Up to the middle of the afternoon we had paddled and drifted on a placid river. Then the current began to quicken. We raced down through one small rapid but instead of finding quiet waters at its foot, the current ran faster and faster until we were whirled along as though through a mill race. At the same time, from a distance there was borne to our ears the ominous roar of rapids or a cataract. Rounding a sharp bend in the river we were confronted by the seething white waters that generally precede either. We drifted down to the beginning of rough water, then quickly drove our canoes ashore.

Having made our canoes fast for the night we directed our men to clear the ground for our camp.

The rest of us cut our way through the tangled undergrowth down along the river shore to determine how serious and how extended was the obstacle to our progress. As the result of our reconnaissance we found a long series of rapids and low falls while for a part of the distance the river went rushing down through a narrow gorge whose jagged rocky walls were at one spot barely two yards apart. At the narrowest point I knelt down and, extending my rifle in one hand, was able to touch the opposite shore with the muzzle. It seemed incredible that the broad smooth river of a hundred yards in width on which we had been travelling, could be compressed between such narrow walls. Its depth through that narrow gorge where the water writhed and twisted in a foaming torrent could only be guessed at. No canoe could ever live through such whirlpools. Only one glance at the angry waters was necessary for us to realize that a long portage would have to be made.

The following morning our camp and kitchen equipment were transported to the foot of the carry and work was begun cutting a trail through the forest over which we could drag our heavy dugout canoes. The small trees that were felled were cut

into short lengths and laid crosswise on the trail, forming a continuous skidway.

Four days were spent in getting our canoes and supplies to the foot of the carry, days of intense discomfort as we became the prey of hordes of biting, stinging insects. We suffered more at these rapids from insect bites and stings than at any other point on the river. Indeed, nothing comparable to it had occurred since Miller and I camped on the Pilcomayo. Colonel Roosevelt, in order to do his writing, wore a head-net and a pair of gloves. Not only were we ourselves attacked by swarms of insects, but it required constant vigilance to save our clothing from being carried away piecemeal by termites and leaf-cutting ants.

On the morning of our second day at these rapids, we awakened not a moment too soon. My poncho, which I had spread on the ground beneath my hammock, was literally alive with termites. They had also invaded my duffle bag and Colonel Roosevelt was startled as he leaned over the side of his cot to see bits of the red lining from his helmet carried by lines of ants towards the forest. But to add insult to injury, the termites had also found his underwear and had all but amputated one leg. When the Colonel held them up for our in-

spection there was a shout of laughter, but I don't believe he relished our mirth.

In the forest in the neighborhood of these rapids, which we christened the Navaite Rapids (because we believed ourselves to be in the territory of the Navaite Indians), we found well-worn trails. One, which ran parallel to the river, led to its narrowest point in the rocky gorge. There there had been constructed a primitive bridge by laying three small poles side by side across from brink to brink.

Finishing our portage around the Navaite Rapids, we once more embarked on a broad, smooth river. But at the end of a day and a half, on the evening of March 6 at our seventh camp, we were faced by more rapids that necessitated another long portage. During the four days that were spent in transporting our canoes and supplies to the foot of these rapids we moved camp three times. These camps were only about a mile apart and the last one was the scene of our first real misfortune.

The *balsa* with the two largest and oldest of our canoes had been carefully moored by means of ropes. We felt all was secure before retiring that night; but a heavy rainstorm so increased the flood of water that the two canoes were swamped and crushed among the rocks.

Owing to the loss of the two canoes it was now impossible to get all the members of the party and our outfit into the remaining five canoes. There was nothing that we could do but stop and build one or two new ones. Our food supply being limited, the delay was serious. After a short search a tree that we thought suitable for canoe-building was found. It was felled, eight meters were measured off from the base, and work on the new canoe begun.

During our stay at this point rain was almost constant. Our clothing was never dry. We suffered greatly from the attacks of insects; especially so the canoe men and camp helpers who were doing the work of hewing out the new canoe. Their clothing was scanty and their feet, hands and faces soon became sore and much inflamed. Construction however, went steadily forward. Rondon would stand all day long directing the task and keeping the men hard at work. They worked in shifts, the last shift not stopping until nearly midnight. While at these rapids, which we named "Broken Canoe Rapids" we made a careful inventory of our provisions and found that there were sufficient rations to last us about thirty-five days.

We had then been on the river for fifteen days.

Our survey records showed that we had advanced on an average of only about two and a half miles due north per day; or a total of about thirty-seven miles out of a possible four hundred should the Duvida prove to be a tributary of the Amazon. If we continued to advance at the same rate our food supply would be exhausted long before we had reached our destination.

About noon on the fourteenth of March, our sixteenth day on the river, every member of the expedition was called to assist in dragging down to the river and launching the new canoe. We had christened her the *Arupuan.* She rode well on the water; and early in the afternoon we once more made a start downstream.

Our enforced delay emphasized the necessity of making greater speed. The current was swift, carrying us rapidly along and many times we drove our canoes through whirlpools and rapids at the risk of being capsized. At one point Colonel Roosevelt's boat was caught in a whirlpool and almost swamped. Two of us sprang overboard to lighten the load; while the canoe men put every ounce of their strength into their strokes and finally drove us safely through. We made camp that night long after darkness had set in but we had the satisfaction

of having made a run of fifteen kilometers during that day.

We had already met with misfortune but the following day was to be one of tragedy. We made an early start, with Kermit's canoe as usual in advance. We had gone only a short distance when the character of the country began to change. Rocky hills rose abruptly on either side and within a couple of hours we were confronted by new rapids, in the center of which lay an island. These rapids looked too dangerous for us to run. Kermit in his canoe cautiously approached and disembarked on the right bank of the river where, after making an examination along the shore, he concluded the difficulties were too great for portaging and the rapids too rough for running even with empty canoes.

He embarked once more, turned his canoe upstream for a short distance and then dropped down to the island. From the island he attempted to reach the left bank of the river. But whether through error in judgment on his part or on the part of his paddlers, we will never know. In any case before they realized their danger he and his men were caught in an unseen whirlpool and whirled into the milling waters and over the brink of a low falls. We who were in the following canoes saw Kermit's craft

THE SMALL TREES THAT WERE FELLED WERE CUT INTO SHORT LENGTHS AND LAID CROSS-WISE OF THE TRAIL FORMING A CONTINUOUS SKIDWAY OVER WHICH WE DRAGGED OUR CANOES.

THE AUTHOR IN HIS CANOE ON THE RIVER OF DOUBT.

disappear over the brink. We drove our boats ashore and then raced afoot down along the river bank to the bottom of the falls. The canoe had been caught in cross currents, capsized, carried over the falls where it landed among the rocks below and was crushed to splinters. One of its paddlers, Simplicio, we never saw again. Kermit and the other paddler were saved as by a miracle. After being tossed about in the rapids and swept over the falls, they found themselves struggling at the edge of a great whirlpool in which they were caught by a back-current that actually helped them towards safety. Although almost exhausted, Kermit was able to grasp some overhanging branches and dragged himself out of the water.

The loss of a human life is always a tragedy, but the loss of the canoe and its contents was an even greater tragedy to the remaining members of our party. Kermit's rifle, ten days' food supply and part of our tools for boat-building had now been lost.

Careful search was made along both banks of the stream for the body of the canoe man, but without avail. The search continued some two or three kilometers downstream and revealed that we had ahead of us even worse rapids than those through which we had just passed. So it was with a feeling

of much depression that we portaged our canoes and supplies down to the foot of the falls.

The camp marker that we set up the following morning bore the inscription, "In these Rapids died Simplicio."

With the loss of Kermit's canoe we again found it impossible to get all the members of our party into the five remaining. There were no trees suitable for canoe building in the neighborhood of our camp; and, knowing that there were more rapids just ahead of us, we determined to push on with some of the members of the expedition walking along the shore. After making a careful study of the new series of rapids we concluded it might be possible to let our canoes down by means of ropes. The plan worked well with the first four of the canoes. But misfortune still followed us. By the breaking of a rope when in the midst of the rapids, our large new canoe, that we had built and launched at "Broken Canoe Rapids Camp" only four days before, was swept in among the rocks and sunk! This left us now with but four canoes.

Nor was this the end of misfortune for that day. While the canoes were being lowered through the rapids Colonel Rondon had taken one of the dogs and gone downstream to make a further recon-

naissance. He had proceeded for only a short distance when he heard the dog that had run ahead give a sharp yelp of pain. A few moments later there was another cry from the dog as it staggered into view and dropped dead, pierced by two long Indian arrows. Rondon saw no one, but he heard voices. He fired a couple of shots, hoping to frighten the Indians and at the same time to warn us. He then made his way quickly back to camp. The news he brought us was startling, indeed. Were we in a hostile Indian country? It was a question we were never able to answer. During the long succeeding days and weeks of our struggle with rapids and cataracts, hunger and sickness, we never saw a living soul. Day after day we came to hastily abandoned camps. Frequently we found footprints by the river's edge. We sometimes heard Indian voices but never once was anyone seen. The footprints, the abandoned camps, and the voices of unseen people became uncanny.

After carefully considering our position, Rondon, in company with Lyra, Kermit, the doctor and Antonio Parecis returned to where the dog had been killed. They found its body, impaled by two arrows, one of which had been driven with such force that it had completely passed through the body and

protruded from the other side. From the make of the arrow it was not possible to identify the Indians but Rondon thought they were not of the Nhambiquara tribe. The arrow was carried back to our camp and is one of the few trophies that we brought home from the River of Doubt.

As we had lost a canoe and were probably in hostile territory, it behooved us to move with caution. Two of our canoes had been lowered through the rapids and two still remained above. Our food supplies were also divided. So we stationed a guard at each end of the carry while the two canoes were being piloted through the rapids by our best boatmen and the food supplies carried to camp. Colonel Roosevelt stood guard at the lower end of the portage and I at the head.

Our situation was a serious one. Provisions were decreasing every day. From the difficulties we had already met with and the slow progress we were making, we had every reason to think the journey would be a long one. What obstacles lay ahead of us we could only surmise. We believed ourselves to be surrounded by hostile Indians and felt our only safety lay in keeping on the move. After a lengthy discussion that night we determined to cut down our equipment and abandon everything ex-

cept food supplies and other actual necessities. We knew we must get everything into our remaining four canoes and yet leave sufficient room for Colonel Roosevelt, the doctor and several of our men who were ill with fever or whose feet were so badly swollen from insect bites that they could not walk.

We therefore proposed to lash our four canoes in pairs to form two *balsas*. Colonel Roosevelt would be in charge of one and the doctor in charge of the other. The remaining thirteen members of the party would make their way on foot, keeping as close to the river's edge as possible.

Our camp at the foot of the rapids that we had named "Broken Rope Rapids" was the twelfth that we had made in the eighteen days of our journey on the river.

The last entry in my journal under this date was: "It is doubtful if all our party ever reaches Manaos."

The following morning we got an early start from our camp of ill omen. The canoes carried nine, and thirteen of us walked. The party on shore travelled single file, led by three or four of the *camarados,* who, with their bush knives cleared the way of vines and other obstructions in our path. Rondon, Lyra, Kermit and I followed. We were

all armed. After about five kilometers' walk we came to a series of rapids where we had to portage the cargo from the canoes for about two hundred meters, but were able to run the rapids easily with the empty *balsas*. These rapids were named "Good Passage Rapids."

Our companions in the canoes travelled much faster with the river's swift current than we were able to do making our way through the forest. They frequently had to stop and wait for us.

After reloading our canoes at the foot of "Good Passage Rapids" they were held for a time to enable the land party to get ahead a short distance. Another hour's tramp brought us to more rapids, where there was a broad expanse of broken waters studded with small islands. We named this spot "Rapids of the Seven Islands." Our first glimpse of them told us that a long portage would again be necessary.

The first *balsa,* in charge of Colonel Roosevelt, had a close call here when in rounding a sharp point its occupants found themselves in the swift waters of the first stretch of rapids that swept them against some large boulders. They were badly shaken up but with furious paddling managed to reach the shore. The doctor, warned by the difficulties the

A SUITABLE TREE WAS FOUND AND WORK ON A 25-FOOT CANOE BEGUN.

A LONG RAPIDS STUDDED WITH BOULDERS LAY BEFORE US.

first *balsa* had encountered, chose a different channel and came through safely. The cargoes from both *balsas* were then portaged to the foot of the carry and the two empty *balsas* brought down through the remaining rapids.

Rondon and Kermit were the first to reach the foot of these rapids. There they found a narrow but deep river entering the Duvida from the left. Rondon named it Rio Kermit. We camped just below the mouth of this stream. We had had a successful day's run and were all additionally cheered when Lyra caught two fine *pacu,* a large deep-bodied fish which were a most welcome addition to our scant rations.

How little it took to cheer us! With full stomachs, we felt that we might reasonably hope thereafter to have our food supply supplemented with fish or other game, although up to that time both had been few and far between. We were in a contented mood and felt there had been a rift in the clouds of our misfortune. Nevertheless we kept sentinels posted about the camp and quenched our fires early that their light might not reveal our presence.

The next morning, before leaving our camp at the mouth of the Rio Kermit, more time than usual was spent in the selection of a hard wood post to

mark the camp site. When all was ready Rondon assembled everyone about the "marker" on which we found there had been nailed a neat oval plaque of polished wood bearing the legend "Rio Kermit." Rondon, as representative of the Brazilian government, then read "the orders of the day" formally naming this tributary of the Duvida, *Rio Kermit,* and at the same time stating that by direct orders of his government the river we were descending should henceforth be known as *Rio Roosevelt.* Rondon then proposed three cheers for the United States, Colonel Roosevelt and for Kermit. In turn the Colonel called for three cheers for Brazil, Colonel Rondon, Lyra, and the doctor and finally for the *camarados.*

After the ceremony we started downstream once more proceeding in the same order as on the previous day. However, we were able to advance more rapidly for we found well-marked Indian trails along the river that greatly facilitated our march. Several times during the morning we came upon Indian houses and shelters, sometimes three or four together; some were old, others newly constructed. One house, consisting of several non-connecting rooms, was built around three sides of a square. There were no windows and the one entrance to

each room was so small that a man would have to creep on hands and knees to enter. This was doubtless to darken the interior as a protection against black flies and other insect pests. While we did not see a living creature, two or three times we heard voices and twice the excited barking of our dogs that ranged ahead of us indicated the presence of Indians. Tied to a pole near one of the houses we left an ax, a knife and some strings of beads with the hope that the Indians would return and realize that we were friendly.

We placed our camp at the lower end of a series of rapids that required a long portage of our supplies. The canoes were run down empty. The river made a sharp turn just at the foot of the rapids forming a spacious bay. From the day when we had lost our new canoe we had been searching for trees suitable for canoe building. At this point we were fortunate in finding a number of fine araputango trees, the wood of which is somewhat similar to red cedar, and is ideal for light canoes. We had made a great mistake in the building of the first one. We had sought size in the tree we had selected without considering the buoyancy of the wood, which proved to be so dense and heavy that a chip thrown into the water sank like lead. This lack of buoyancy was one

of the chief reasons why we had lost our new canoe. The wood of the araputango on the other hand, is almost as light as cork. We determined therefore to camp here long enough to build two small canoes.

The following morning the trees we had selected were felled and work at once began hollowing out the logs. As we saw no further signs of Indians we hoped that we had got beyond their territory and were much encouraged. But another peril unexpectedly confronted us. We discovered that some of the *camarados* had been stealing our emergency rations. Fifteen of the boxes had disappeared!

Two days later we completed the work on our new canoes and early on the morning of March 22nd, embarked and for some time fairly raced down the river's swollen flood. Then we had to disembark and walk around a long rapids that our paddlers successfully ran with the loaded canoes. This was followed by several hours of paddling in smooth water when we again encountered rapids where the water was rough and dangerous for a stretch of well over a mile. The portage was not only a long one but over rough country so that the passing of our supplies was not completed until sundown. The paddlers finally brought the empty canoes

safely down through the rapids and we camped at their foot.

Three-quarters of an hour's good going on the morning of the 23rd landed us at the head of more rapids. The portage was a rough one and we scrambled over boulders and through thickets for nearly a mile. The empty boats were run down successfully; and, although it was late in the afternoon before we had completed the portage, under the urgency of making further headway we reembarked and drifted down an additional four or five miles finally camping after darkness had set in.

That night I wrote in my journal: "We are getting ahead very slowly. The frequent bad rapids make many portages necessary. For some time we have been on a little more than half rations. At the present rate we have sufficient for about twenty-five days. The men are already eating a great deal of palmito (the terminal buds of the palm) and it looks as though we may all be reduced to that ration very shortly."

On March 24th and 25th we encountered one series of rapids after another. Rarely did we have more than fifteen minutes' smooth water between them. "And," I continued in my diary on the 25th, "as there is a range of low hills ahead, which prob-

ably means more rapids, there is a feeling of great depression in our camp tonight. The only thing to cheer us was the finding of a few Brazil nuts, the first that we have met with. There are an abundance of Brazilnut trees but apparently the crop in this region had been a complete failure. We are all earnestly hoping to find them common farther down the river. They will help out our rations immensely."

On the 26th we again spent the entire day carrying the cargo and dragging the boats around one series of rapids after another. The men worked hard under the direction of Kermit and Lyra, while I searched the forest for game but without success.

On that date occurred an incident quite as characteristic of Roosevelt as was his impetuous rush into the river to help salvage our two imperiled canoes.

From the beginning of our journey Kermit and I had, turn about, done the washing for the three of us. It was now my turn. The task was not an arduous one for we were relatively as short of clothes as we were of rations. I had taken the little bundle and gone down to the river's edge to begin the cleansing process when the Colonel who had been watching Kermit in his efforts to get our canoes through

COLONEL ROOSEVELT AT THE FOOT OF A GROUP OF PACOVA PALMS, RIVER OF DOUBT.

WHEN THE COLONEL GREW SO WEAK THAT HE COULD NO LONGER SIT UP, WE RIGGED A PROTECTION FOR HIM AGAINST THE SUN AND RAIN.

some difficult rapids, returned to camp and said to me, "Cherrie, Kermit would like you to give him a hand with the boats." As I began rolling up the clothes to deposit them between the stones at the river's edge the Colonel said: "Never mind those things, I'll take care of them."

That evening when Kermit and I returned to camp we found the washing had been done and hung up to dry. It is the only time I have ever had my clothes washed by an ex-President of the United States!

Along the shore, near the center of this series of rapids, and directly below a fall of about three meters, I found several boulders of quartzite and granite on which were cut some curious figures, the work probably of a very different race of people from that which now inhabits the region. At one time there were doubtless many additional figures as the outlines of some could still be dimly traced, while others had been completely worn away by time's slow erosion. The figures most prominent, and that had suffered least from erosion, were three concentric circles side by side. The outer circle of each was about a half meter in diameter, with three inner circles and a central dot. On the nearly-vertical face of another boulder just beyond the one

bearing the circles were cut three figures somewhat resembling gigantic letters M, with each stroke or limb of the figures consisting of three parallel lines.

Colonel Rondon, who had spent much time in Matto Grosso, stated that he had not seen carvings on the boulders bordering any other river he had explored in that territory. I had, however, found stone carvings at many points on the Orinoco.

After we had made camp that evening we had a pleasant surprise. There were several Brazilnut trees in the immediate neighborhood and from beneath them we gathered nearly a bushel of nuts. It was a very important find for us. The nuts were counted and divided equally among every member of the party. They were put into one of our pots and boiled with *palmito*. We found them delicious, with a flavor very much like that of roasted chestnuts. Besides the nuts we all had an additional treat consisting of about two tablespoons each of wild honey. And to complete the good things for the day, two large piraña were caught which provided a good-sized portion for every one of us. We were also cheered by good weather as we had had no rain for three or four days and the river was falling.

The twenty-seventh of March marked our first

month on the river. That day there occurred a terrific downpour of rain which lasted some three or four hours. As we had long ago abandoned tarpaulins to reduce the weight of our cargo, practically everything we had was soaked and our camp was a wet and dreary one. The only clothes we had were those on our backs. They might dry out more or less during the night but we had nothing to look forward to but wet and clammy clothes again in the morning. Nights of this sort did not contribute to cheerfulness nor restful slumber.

Early on the twenty-eighth we renewed the struggle. But despite our every effort to get ahead we advanced less than a mile. Our camp that night was just below the mouth of a small river entering the Rio Roosevelt from the left and at the head of a deep gorge between the mountains through which the river took its course. Rondon named it *Rio Cherrie*. There we were faced with the possibility of having to abandon our canoes. None of us knew what the morrow might bring forth. Our equipment had been cut down to the absolute limit and there was little left but the clothing on our backs.

Our position was now so serious that a sense of gloom pervaded the camp. Usually, in the evenings, after we had had our dinner the discussions were of

the river and the rapids and our ever-increasing difficulties. But that night there occurred an amusing incident which for a few minutes changed the current of our thoughts and served to relieve the tension. The canoe men were sitting in subdued groups about their fires. The forest pressed close about us. Colonel Roosevelt, Rondon and one or two others were sitting at an improvised table on which there sputtered three or four candles. I lay in my hammock, close by, listening to the conversation when suddenly I saw creeping up over the edge of the table a huge centipede. Those about the table must have seen the creature at nearly the same moment. The river and its rapids were forgotten. With one accord they threw themselves backwards and in doing so kicked over the table and extinguished the candles. There was a mad scramble, each one believing the centipede had landed on him; but in the darkness the creature had made good its escape.

During that day I had noticed three or four black vultures sailing high above the forest. As these birds are not forest-loving species I felt that once we had cut our way through this chain of mountains, open country might lie beyond.

We remained during the following day, March

KERMIT ROOSEVELT WHEN WE WERE STARTING DOWN THE RIVER OF DOUBT.

COLONEL ROOSEVELT AND COLONEL RONDON AT TAPIRAPUAN.

29th, in our camp at the mouth of the Rio Cherrie, while Rondon with some of our men cut a trail up over the mountain and down around the series of six falls that confronted us. To do this it was necessary to go back a considerable distance from the river as it was found to be impractical and too dangerous to cut a trail along the precipitous sides of the mountain that faced the river gorge.

At the highest point on this trail a rocky point afforded a view out over a vast panorama of forest-clad valleys and mountain tops. In the valley below we could see the Rio Roosevelt rushing like an arrow of light straight away toward the distant hills, there to disappear into the somber forest. It was a beautiful view but it filled everyone with dread. We had learned that wherever the river entered in among the hills it meant rapids and cataracts and our strength and courage alike were almost exhausted. We again discussed the possibility of having to abandon our canoes but dreaded to think what our fate would be should we be forced to do so.

Our position I am sure had affected the health of everyone, that of Colonel Roosevelt most of all. He had been ill intermittently since the days spent at Broken Canoe Rapids where we had lost our first

two canoes. His sickness began with fever. A little later dysentery further sapped his strength. Now, in addition, he was suffering from oriental ulcers and the wound that he sustained when assisting in salvaging our canoes had become infected. As he and I went down the trail to our camp at the foot of the rapids, his heart was so affected that frequently he had to sit down and rest. He was evidently in great pain because three or four times he threw himself on the ground and begged me to go on.

A curious effect of our having been on short rations for so long showed itself in our conversation in the evenings. We talked much about the river and its rapids, which were ever present in our thoughts; but we also talked incessantly about food and we invariably told one another what we were going to have when we got home. Colonel Roosevelt always wanted a mutton chop "with a tail to it!" Kermit, I think, wanted strawberries and cream; while I longed for griddle cakes and maple syrup.

During the three days that we remained at the mouth of the Rio Cherrie the advance that we made with our cargo and boats averaged less than a mile per day; but on the morning of the 31st we had

reached still water and felt that we might have smooth going for some distance. Therefore before embarking we joined together our two new canoes as a *balsa*.

Colonel Roosevelt, the steersmen, and the paddlers went in this while the rest of us made our way through the thickets along the shore. But, alas, instead of having a long stretch of open water, at the end of an hour's time we found ourselves at the head of another series of rapids where a long portage was again necessary. Instead of getting out of the hills as we had hoped to do, their dark shadows grew more ominous. The river entered a narrow gorge where it ran like a mill race, boiling and foaming in impotent fury as it tore down through the boulder-strewn channel.

The portage was a difficult one. The mountains on each side were precipitous, rising abruptly from the river's edge, but by creeping along narrow ledges and sometimes wading around projections of the perpendicular wall, nearly always up to our waists in the foaming rushing torrent, we won our way through. That evening, after making camp Rondon, Lyra and Kermit pushed ahead for a mile or two to explore. The report they brought back was full of ill omen. I have never forgotten the expres-

sion on Rondon's face when he said: "We shall have to abandon our canoes and every man fight for himself through the forest." Had we done so, I doubt if any one of us would ever have come through. To all of us his report was practically a sentence of death. Kermit and I refused to consider such a plan feeling that our only salvation lay in the party holding together and at least making every effort to get our canoes through the canyon. This fortunately we succeeded in doing.

Colonel Roosevelt was a very sick man and the effect of Rondon's report on him, with his feeling of keen responsibility to us all, was such that I felt he might not live through the night.

After the camp had quieted down Kermit and I took turns watching by the Colonel's side. Towards morning, after I had retired to my hammock, suddenly he started up and asked: "Did Cherrie have a good dinner tonight?" And Kermit realizing that his father's mind was wandering, said, "Yes, we all had a fine dinner."

An hour or two later I was wakened by the Colonel's voice: "Cherrie! Cherrie!" I sprang out of my hammock and with Kermit stood by his side. We talked for a few minutes of the difficulties and dangers ahead of us and the Colonel finally said:

AUTHOR AND PARECIS WOMAN AT RIO SACRE, BRAZIL.

A NHAMBIQUARA MAIDEN, CENTRAL MATTO GROSSO.

"Boys, I realize that some of us are not going to finish this journey." Then he turned to me. "Cherrie, I want you and Kermit to go on. You can get out. I will stop here."

Between the twenty-ninth of March and the third of April I was so sick with fever that no further entries were made in my diary. During that time we had advanced only some five or six miles to the entrance of a second canyon where disaster again overtook us. First, our canoe men neglected to put a tie-rope into one of the canoes when bringing it through the first section of rapids to the point where it would have to be lowered with ropes down the canyon. As they came in towards shore they grasped at the overhanging branches and vines to stay their course, but the current was too strong. The vines broke and the canoe was carried on. The boatmen Juan and Antonio leaped out to save themselves and to try to save the canoe; but without a tie rope it was hopeless. It sped into the canyon and was quickly crushed in the rapids and whirlpools below. Again we were left with only four canoes.

This loss was a disaster but the day was to prove one of worse tragedy. A little later Colonel Roosevelt, Kermit and I walked to the foot of the first

carry just above the falls where we were going to assemble our supplies. Rondon, with some of the men, had gone ahead to cut a trail over the hills and along the face of the cliffs to the foot of the canyon. Lyra was at the entrance of the canyon clearing away obstructions so that the ropes might be used in letting down the canoes. The remainder of the men were engaged in bringing the supplies forward to the point where the three of us were waiting. We had not given much attention to the coming and going of the men. A part of our food had already been brought down and deposited near us, and three or four of our rifles were leaning against a tree close to where we were sitting. Finally, Julio, our Portuguese boatman and a powerful brute, who from the beginning had made trouble among the men and had shirked his work on every occasion, came up groaning and muttering to himself. As he put down his load we remarked on his shiftless attitude. I looked up a moment later and was surprised to note that he had picked up one of the rifles and started off with it. I commented on this to the Colonel who suggested that Lyra had probably seen monkeys or game of some sort and had sent for the gun. A very few minutes later we heard

a shot. The Colonel said "I wonder what he has shot at?" and we all speculated as to the game he might have got that would add to our meager supplies. A few minutes later several of the *camarados* came running up shouting *"Julio has killed Paishon!"*

Colonel Roosevelt, although a very sick man, sprang to his feet at once and seized one of the rifles. Turning to Kermit and me, he said, "I must go back and warn Lyra. You boys guard the canoes and the food supplies here." Before we could stop him he had started down the path where Julio had disappeared. Without hesitation he himself chose to go back over a trail on which the murderer might be concealed. However, he had barely disappeared from sight when Rondon and Lyra came up from the opposite direction.

We all felt that Julio had run amuck and had probably determined to kill as many of us as he could. Especially we feared for our canoe man Pedrinho who had caught Julio stealing food that morning and had reported him to Paishon. Leaving two of our men armed to guard the supplies, we started over the trail for the upper camp. We had not gone far when we came to the spot where Paishon's body lay just as he had fallen. Scanning

the sides of the trail we saw the spot where Julio had fled into the forest after committing his cowardly deed. Antonio Correa, one of our best boatmen, started to follow his trail but he had gone only a few yards when he gave an exclamation of surprise and held up Julio's gun. It had probably been torn from the murderer's hands by the tangle of vines as he fled.

Paishon had fallen forward and lay on his face and as we stood by his side one of our boatmen, crossing himself, said "He is now following Julio who will never escape. When a man is killed and falls toward his murderer it means that the ghost of the dead man pursues him as long as he lives."

The *camarados* with their axes and knives dug a shallow grave, scooping out the dirt with their hands and there we laid the body of Paishon. A rude cross was placed at his head and a volley was fired over the grave in honor of a faithful, loyal soldier of Brazil.

Finding Julio's gun was a great relief to us as up to that moment we had felt that he might be lurking in the thick forest and would kill again if the opportunity offered. Following his trail for some two or three hundred yards we found that after his first headlong flight he had turned in his

tracks, probably with the intention of recovering his gun; but had lost courage as he heard us approach.

No immediate organized effort was made to track down and bring to justice the murderer. We as Americans in a foreign land, of course had no legal right to put to death even so cold-blooded a criminal. As we were guests of the Brazilian Government and accompanied by Colonel Rondon, a military officer, the duty and responsibility of action lay with him. Our expedition was in peril. Our food supply was low. The probability was that weeks of gruelling hardship were ahead of us. To capture and carry with us a man who had already stolen food from his hungry companions and in cold blood murdered one of them was to me an inconceivable folly. I felt our first duty was to our men who had proved themselves honest and loyal.

There being no capital punishment in Brazil the capture of Julio would have meant the carrying with us of a man whom it would have been necessary to have kept constantly under guard. But Rondon insisted on halting the expedition for a day while he sent two men back to seek for and bring in the murderer. But they did not find Julio.

We kept an armed guard with the *camarados*

as they carried the cargo down the narrow trail along the face of the cliff to the foot of the last falls. Also we left a guard for the boats and the provisions at each end of the trail. I assisted Lyra and Kermit in the work of getting the canoes through the rapids, but our progress was slow and that day only two of them reached the foot. When night came it was necessary to divide our company. A guard was left with the canoes and cargo still at the head of the rapids; and those of us at the foot of the canyon managed to find room for our hammocks which we swung between trees that grew amidst boulders piled high on a narrow strip of land at the foot of the cliff.

The night passed without incident and on the following day we got our two remaining canoes down. I alternately stood guard and helped Kermit and Lyra in the difficult task of getting the canoes through the canyon rapids, and in pushing and pulling them over the long portage.

Although it was late in the afternoon before our canoes and supplies were assembled beyond the canyon we felt it a necessary precaution, in case Julio might still be lurking near us, to move to the opposite side of the river. After the crossing had been made Colonel Roosevelt, Rondon and the doctor in

our largest canoe, continued downstream while the rest of us made our way on foot through the forest along the shore. At the head of the next rapids we camped for the night.

All that day Colonel Roosevelt had been very ill with a high fever and the doctor, Kermit and I sat up with him through the night. Fortunately, with the coming of the day his condition improved, the fever lessened and with indomitable spirit he insisted on walking with me around the rapids.

Late that afternoon while we were making camp Antonio Paracis, came hurrying toward us with the news that monkeys were in sight. Kermit and I seized our guns and followed him. We found a big troupe of Barigudos, a large heavy-bodied species of monkey, but they were very high up in the tree tops and moved with surprising speed. Kermit and I shot three. The fresh meat we all craved gave us renewed strength and energy and the fact that the mountains that had for so long hemmed us in seemed at last to be falling away from the river brought us new courage.

The following morning, April 6th, after our supplies were carried around a five hundred meter portage and the canoes successfully run down, the river widened out into a spacious bay and then took

its course, a deep broad quiet stream, away to the northward. There we embarked and although at one point for a distance of two or three kilometers we fairly raced through a series of small rapids, for the most part our course was through quiet waters. The mountains fell away rapidly. Only a few low hills at times appeared in the distance to offer a possible barrier to our course, but when we reached them we found the river wound gracefully around them and before mid-day they were only dimly outlined far behind us.

That day we made a record run covering a distance of thirty-six kilometers! The Colonel was better that night; but Kermit had a high fever and Lyra and I were suffering from dysentery. We were, nevertheless, more hopeful as we now believed that our major difficulties were past.

Our camp was just above the mouth of what proved to be the largest tributary of the Rio Roosevelt. We named this river the Rio Capitan Cardozo, in honor of a Brazilian explorer.

The following morning there were so many members of our party who were ill that we felt it would be wiser to stop for a day's rest. During that day the only exploration of the river was done by Antonio Correa, who took our smallest canoe and de-

OUR LAST CAMP BEFORE STARTING DOWN THE UNKNOWN RIVER.

COLONEL ROOSEVELT AND COLONEL RONDON VIEWING THE FALLS OF NAVAITÉ.

scended a short distance to the head of a series of rapids whose angry roar filled us with some apprehension. When he returned he reported not only a series of rapids, but falls as well. Fate seemed to be against us once more. However, after some gruelling work on the morning of the eighth, we got our canoes safely down. We made several portages, two of them over a quarter of a mile in length. I walked with Colonel Roosevelt and despite the fact that it was practically level ground, he was so weak and exhausted that our progress was very slow.

The lack of sufficient food had in fact weakened us all so that our resistance was at very low ebb. For three weeks we had been on less than half rations; yet daily we had worked to the limit of our strength. It was a real godsend that evening after we had made camp, when I heard the cries of a troupe of monkeys. Taking my gun I slipped into the forest where I soon located them. Out of the group of a dozen or more I shot three. One of the three, however, hung suspended by its prehensile tail and had it not been for the assistance of Antonio Paracis who scaled the bare trunk of a small tree that reached to the branches of the big one where the monkey hung, and managed to shake the animal down, I could never have secured it.

Three large monkeys meant a great deal to us and our hungry companions. It meant meat and plenty of it for all. Our supper that night, consisted of one soda cracker each, monkey stew and a cup of coffee. We could all of us have eaten much more but felt it was good policy to save some for the following day.

On the ninth of April I wrote, "The long series of rapids that we have encountered from the mouth of the Rio Cardoza has again left us greatly depressed. Colonel Roosevelt's condition is very serious, and Kermit has a temperature tonight of 104 degrees." I also added: "I have felt pretty well today but am very hungry."

During the following two days, our hopes and fears rose and fell as one series of rapids after another were reached and successfully run. On Easter morning, April 12th, we were all much excited by the news brought in by one of our men who had crossed the river to do some fishing. As he was paddling his canoe close to the shore he was amazed to find a *bejuca* (vine) that had been cut off with a knife or an axe. The vine could only have been cut by someone in a canoe, and as the Indians in that region were not supposed to be river Indians, we could only conclude that it had been the work of some adventurous rubber gatherer. We

were all jubilant as we felt that from this point on the difficulties of our descent would surely be less and that soon we would find the shacks marking outlying rubber camps.

We had not made much progress that day but forgot all our difficulties in anticipation of the morrow. Our spirits were cheered not alone by the good news that the boatman had brought, but by a real feast. We had caught between twenty and thirty large fish which meant a liberal helping for each. Furthermore, for the first time in over a month there was not the ominous roar of rapids ahead of us.

During the following three days we did encounter rapids which caused us some anxiety, but we succeeded in running them all without accident. As we paddled through stretches of smooth water we would watch with dread each turn in the river to see what it held in store for us and it was with deep relief that we now found our way comparatively unimpeded.

The fifteenth of April was a day of happy surprises. First we found a sign-post on the left bank of the river bearing the letters "J. A." We were in a fever of excitement as it was the first definite mark that a civilized man had been up the river. A

half hour later we came to a *baraca,* a rubber gatherer's shack. Shouts of exaltation went up from our canoes as this frail outpost of civilization met our eyes. Here we hoped to find food. Uncertainty was now a thing of the past, as we had reached a point below which the river must be known. However, the *baraca* was tenantless, guarded only by three dogs that greeted us in friendly fashion.

Looking about the place we found some provisions in the shape of mandioca, rice and yams but although we were badly in need of food we determined to touch nothing as we hoped soon to find other habitations. An hour lated we came to a second *baraca.* From its owner, an old negro named Ramundo José Marques, we got our first real information as to our whereabouts. We were on what had been known to traders and rubber gatherers as the Rio Castaña. Here Ramundo lived alone and had only a meager stock of food but he gave us assurance that we would find other habitations, better provisioned, a little farther down the river. About three o'clock that afternoon, through a downpour of rain I saw a *baraca* in the distance. There were two small children playing about the door. The moment they spied our canoes they scur-

ried inside the house. Almost at once a woman appeared with the two children by her side. For a few seconds she stood in the rain watching the approach of our canoes, then gathering the children in her arms she disappeared. When we reached the house it was deserted. A fire was burning, evidently a meal was in preparation, but no one was in sight. Two or three hours later we learned what had happened. The woman on seeing canoes coming down the river had concluded they were those of hostile Indians and believed her house was about to be raided. She had taken her two children and fled into the forest, making her way down along the river to the point where her husband and his companions were working.

The men returned with their guns but kept themselves concealed in the forest and, fortunately for us, before opening fire on our party they realized it was not an Indian raid. Then they came forward. We told them who we were, and they explained why the woman had fled at our approach.

From these men we secured ample provisions, larger canoes and a guide. There were still two long weeks of travel with many rapids ahead of us but from that day on the Rio Roosevelt was no longer a River of Doubt to us.

That evening the great dipper hung just above the northern horizon and to us it seemed almost as if it had come, as an old friend from home, to greet us.

As I look back over my life's winding trails I realize that the journey down the River of Doubt overshadows all the rest; and when I recall the companions I have had, good, bad, and indifferent, Theodore Roosevelt stands apart.

And so it is that I hold that human contacts, if met with sympathy and understanding, are the greatest of all adventures. They form a background against which there pass the highlights of one's varied experiences. They serve to keep alive images and precious thoughts so that the memory of trivial wrongs is finally effaced and the remembrance of only the good and the just remains. Time comes when from the storehouse of these memories the traveller can draw at random much joy, wisdom and charity from the adventure of life.

THE END

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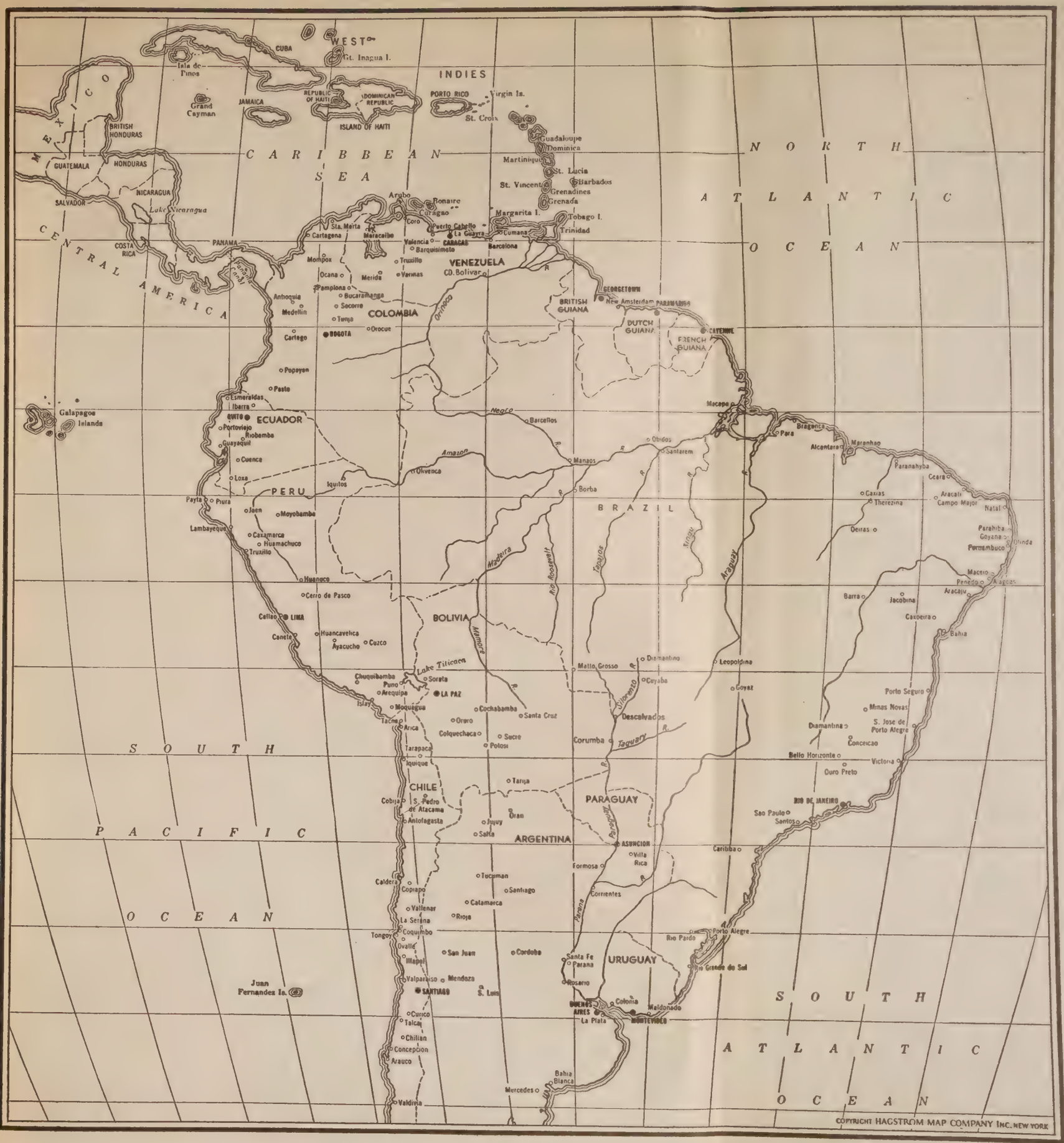

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